GURPS® Fourth Edition

AFTER THE END 2™

THE NEW WORLD™

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A while ago, this humongous comet came crashing into the Earth. Bam! Total devastation. End of the world as we know it. No celebrities, no cable TV. No water! It hasn't rained in 11 years. Now 20 people gotta squeeze inside the same bathtub. So it ain't all bad.

– Tank Girl, in **Tank Girl**

INTRODUCTION

World serves its own needs, listen to your heart bleed. Tell me with the rapture and the reverent in the right – right. You vitriolic, patriotic, slam, fight, bright light, feeling pretty psyched.
It's the end of the world as we know it . . . and I feel fine.
– R.E.M., "It's the End of the World as We Know It"

There's nothing quite like an apocalypse to shake things up. Cities become ruins, rivers run with poison, and *strange* people – and things! – wander the countryside. If you're going to adventure in the wasteland, you need some help. You need a guide. You need *GURPS After the End 2: The New World.*

For players, this book looks at every hazard and adventuring scenario your characters are likely to face, from fighting gangs to scavenging gear to reprogramming robots. Forewarned is forearmed – and to make certain that you're prepared for these dangers, every useful character trait is rendered in **boldface.** Keep this by your side when building your wastelanders, and you'll never worry about overlooking a crucial skill or advantage!

Of course, the GM needs to know how to use these people, places, and things in a way that best challenges the players, which is why *The New World* includes plenty of rules and guidance, too. It also walks the GM through the most important steps of setting up the campaign, and is loaded with general advice for running an *After the End* game.

Every well-planned journey begins with a map, so think of this as your atlas to the wasteland. Grab whatever improvised gear you can scrounge up and get ready to explore! It's a whole new world out there . . .

PUBLICATION HISTORY

This is the first edition of *The New World.* However, some of the rules herein were adapted from other books and modified to fit a post-apocalyptic setting. This includes rules for combat from *GURPS Action 2: Exploits,* survival from *GURPS Dungeon Fantasy 16: Wilderness Adventures* and *GURPS Low-Tech Companion 3: Daily Life and Economics,* persuasion from *GURPS Social Engineering,* zombie-fighting from *GURPS Zombies* and *GURPS Monster Hunters 3: The Enemy,* and diseases from *GURPS Reign of Steel: Will to Live.*

RECOMMENDED BOOKS

The New World is fully self-contained; only the *GURPS Basic Set* is required to play. It assumes you'll use the templates, lenses, gear, and guidelines from *GURPS After the End 1: Wastelanders,* but except for mutation, this isn't required. These rules can be used in any post-apocalyptic game, as long as the world ended at least a few generations ago.

Other books may provide useful inspiration. *GURPS Y2K* (for Third Edition) is an "apocalypse now" book, not a post-apocalyptic one, but it can help the GM plot out how the world ended (see Chapter 1). *GURPS Social Engineering* is useful in games focusing on diplomacy, trading and haggling, or intimidation and mob violence. *GURPS Bio-Tech* is packed full of potential mutations, exotic diseases, and new drugs. If zombies are a key part of the setting, *GURPS Zombies* is invaluable for its wide variety of walkers *and* expanded rules for dealing with them. And *GURPS Reign of Steel: Will to Live* makes a wonderful catalog of rogue robots.

ABOUT THE AUTHOR

Reverend Pee Kitty used to be known as "Jason Levine" – back before the End Times, when he was the Assistant *GURPS* Line Editor. His training from the Church of the Subgenius (an alien-worshiping doomsday cult) made him a post-apocalyptic expert. Sadly, now that he's become a radioactive, three-headed mutant, this document is all we have to remember him by.

ABOUT *GURPS*

Steve Jackson Games is committed to full support of *GURPS* players. Our address is SJ Games, P.O. Box 18957, Austin, TX 78760. Please include a self-addressed, stamped envelope (SASE) any time you write us! We can also be reached by e-mail: **info@sjgames.com.** Resources include:

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Bibliographies. Many of our books have extensive bibliographies, and we're putting them online – with links to let you buy the resources that interest you! Go to each book's web page and look for the "Bibliography" link.

Errata. Everyone makes mistakes, including us – but we do our best to fix our errors. Up-to-date errata pages for all *GURPS* releases, including this book, are available on our website – see above.

Rules and statistics in this book are specifically for the *GURPS Basic Set, Fourth Edition.* Page references that begin with B refer to that book, not this one.

CHAPTER ONE
THE END

Before deciding anything else about a post-apocalyptic campaign, you first have to know what made the old world go away. The means by which civilization was destroyed will determine which wasteland hazards (from Chapter 2) exist, and the prevalence of each. In turn, this lets the players know which skills will be particularly useful when building characters.

> *We lived in an electric world. We relied on it for everything. And then the power went out. Everything stopped working.*
>
> – **Revolution** (intro)

CAUSE AND EFFECTS

While things can usually be traced back to a *primary cause* – some spark or catalyst that put the End Times in motion – it will almost invariably set off a chain reaction of *secondary effects* which end up making things much, much worse. All of the following options can thus be either the fundamental reason the world ended *or* one of the symptoms brought on by the collapse of civilization.

It's important to choose a robust-but-modest selection of elements that make sense together. A world in which a comet strike, nuclear war, viral outbreak, polar shift, robot uprising, and alien invasion happened simultaneously will feel *very* forced, but so will one that faced mass sterilization but saw *no* further problems because of it. As a general guideline, choose a single primary cause, then one to three secondary effects resulting from that cause.

Depending on how long ago (p. 8) this all happened, you may be able to avoid going into great detail, but you need at least a rough sketch to determine what threats the PCs will face! **GURPS Y2K** may prove helpful for the GM who wants to put a lot of thought into the apocalypse; it takes a close look at several end-of-the-world scenarios, along with the reasons behind each, and the resultant short- and long-term implications.

The scenarios below are expanded from *How Did It All End?* (**Wastelanders,** p. 5). Guidelines for each comprise the following three things:

As the Primary Cause: What the GM needs to consider if this is *the* event which set off the End Times. In addition to some basic advice, this includes suggestions for the *other* scenarios here that might logically follow as secondary effects.

As a Secondary Effect: Suggestions for how this disaster may come into play as an aftereffect – that is, as a *symptom* or *complication* of the apocalypse, not as the force which started it.

Appropriate Hazards: The hazards from Chapter 2 which suit this problem, whether it's being used as the primary cause *or* a secondary effect.

Example: Rowan wants a nuclear apocalypse, so she turns to *Bombs Away* and reads the advice under *As Primary Cause.* She likes the "World War III" suggestion, and decides to add *Mega-Virus* and *Things Fall Apart* as complications; she turns to those sections, reading the advice under *As Secondary Effect* for each. Finally, she chooses a mix of *Appropriate Hazards* from the three lists: *Chemicals and Munitions, Paramilitaries,* and *Radiation* (all lingering from the world war); *Disease* and *Mutants* (from the bioweapons used in response); and *Gangs* (from society collapsing).

Bombs Away

There's nothing quite as apocalyptic as nuclear war. Modern research is working toward bombs that destroy humans and structures while leaving behind as little radiation as possible . . . but where's the fun of a post-nuclear wasteland without lingering atomic death? Thus, it's best to assume that the bombs used were either enhanced radiation weapons (ERW) or "dirty" – designs that caused less property damage but left *plenty* of unrealistically long-lasting radiation and fallout.

As the Primary Cause: The only likely global use of nuclear weapons is for a full world war. Anything less is too small of a scale. Likely secondary effects include *Mega-Virus* (radiation mutates germs, bioweapons were used in response, or both), *Mother Nature* (she fights back), *Things Fall Apart* (the shock and awe make society give up), or *Walkers and Shufflers* (we tried a new type of radiation).

As a Secondary Effect: The government might have used nukes in response to any out-of-control situation, even on its own soil. Terrorist groups, or commandos using unconventional warfare, may have set off precision strikes as part of a conventional war. This smaller scale makes radiation a local hazard – something encountered in certain areas, rather than ubiquitous.

Appropriate Hazards: Radiation (p. 25) is a must. Other potential hazards include *Chemicals and Munitions* (pp. 9-11), particularly irradiated heavy metals; *Climate* (pp. 12-13), in the form of fallout rain and cold (nuclear winter); *Gangs* (pp. 15-17); *Mutants* (pp. 18-21); *Paramilitaries* (pp. 23-24), if nukes were a secondary, smaller-scale effect; and *Zombies* (pp. 27-29), as even if the dead aren't literally walking the earth, radiation-scarred mutants may be this for all practical purposes.

Cosmic Rays

Having the entire planet bathed in space radiation is a sure, sterile end to billions. "Sterile" may be literal – fiction is full of apocalypses caused by 99.9% of humanity simply losing the ability to reproduce. There may have been a physical manifestation rather than literal rays; e.g., irradiated dust or crystals falling to earth.

As the Primary Cause: The GM is free to get weird with the details; if the players ask too many questions, throw around terms like "dark energy" and "hypercollapsed 16-dimensional strings" until their eyes glaze over. If sterility was the result, *Things Fall Apart* is almost mandatory. Other likely secondary effects include *Dinosaur Killer* (if a comet or some space debris came along for the ride), *Mega-Virus* (space germs!), *Mother Nature* (whether working with *or* against the threat), *Reign of Steel* (*Maximum Overdrive,* anyone?), *Walkers and Shufflers* (*dark* dark energy), and *X-Factor* (they were drawn by the pretty gamma rays).

As a Secondary Effect: Astronomical-level events like this are rarely a secondary effect. However, dangerous research may have produced the *equivalent* of cosmic radiation. Aliens may have done the same, or were able to redirect a natural space-borne danger at us.

Appropriate Hazards: Any. This category is very broad, and thus the GM needs to define just what the radiation can do. Choosing a selection of hazards is one easy way to start.

Dinosaur Killer

Earth is pretty big, but smash it with a rock the size of a small city and it'll feel the pain. If the meteor hit the ocean, the coastlines are flooded to hundreds of miles inland. If it hit land, everything that was on a fault line in that part of the planet is gone. For more evenly distributed damage, make it a meteor *shower* – rocks "only" the size of buildings, but *thousands* of them.

As the Primary Cause: The situation is similar to *Bombs Away,* just without the radiation. As a secondary effect, *Mother Nature* is almost a given; the meteor(s) stirred up enough dust or water vapor to mess with the whole ecosystem. Other likely effects include *Cosmic Rays* (the glowing rocks emit a weird radiation), *Mega-Virus* (it piggybacked on the rocks), *Things Fall Apart* (if enough widespread destruction happened), and *X-Factor* (it was spaceships debris, not rocks, and now the clean-up crew is here).

As a Secondary Effect: As for *Cosmic Rays,* this is unlikely as a secondary effect, but aliens may have been able to trigger the equivalent intentionally by using a mass driver to *throw* rocks at us.

Appropriate Hazards: What we *thought* were just rocks may have actually hidden any of *Aliens* (p. 20), *Nanotech* (pp. 22-23), *Rogue Bots* (pp. 25-27), or *Zombies* (pp. 27-29) inside. (If you use this, either pick one and stick with it or bring in the others as part of appropriate secondary effects.) Other potential hazards include *Climate* (pp. 12-13), especially acid rain, storms, and water; the aerosol particulates from *Chemicals and Munitions* (pp. 9-11) and everything from *Disease* (pp. 13-15), all of which may be more prevalent due to suspended particles in the air; *Gangs* (pp. 15-17); *Paramilitaries* (pp. 23-24); and *Radiation* (p. 25) from isotopes embedded in the rocks.

Mega-Virus

The GM has to decide whether the virus (or bacteria, phage, etc.) is still an issue. It may have since died off, leaving only normal diseases. Or it may have mutated into a lesser form – or *several* lesser forms, perhaps differentiated by geography – still dangerous, but not as deadly as the original. Alternatively, it may still exist, but the remaining population are all those who've developed resistance to it, so that it's become *effectively* weaker despite not having actually changed.

As the Primary Cause: It's worth deciding, even if only for flavor, whether the disease occurred naturally or was weaponized. Likely secondary effects include *Bombs Away* (either in response to weaponized use or to sterilize cities that were too far gone to save), *Reign of Steel* (we built these bots to operate in quarantined areas, but we made them too smart), *Things Fall Apart* (extremely likely in the face of global plague), or *Walkers and Shufflers* (the infected rise after death).

As a Secondary Effect: Small or poor countries may have been able to afford germ warfare instead of nukes, making this a likely response to any world war. Or a disease-resistant enemy (e.g., aliens or rogue robots) may have engineered it to eradicate us intentionally. Even without conflict, it could have happened naturally in response to strange stimuli, like radiation or cosmic dust.

Appropriate Hazards: Disease (pp. 13-15) is the obvious one, though as noted above, it's *possible* that the killer germ died off long ago and nothing took its place. Other potential hazards include *Chemicals and Munitions* (pp. 9-11), both as concentrated samples of the germ *and* because the stuff used to fight it may be toxic; *Gangs* (pp. 15-17); *Mutants* (pp. 18-21); *Paramilitaries* (pp. 23-24) who are *especially* paranoid about outsiders; and *Zombies* (pp. 27-29), which, similar to *Bombs Away,* can represent disease victims if not actual undead.

Supernatural Ends

To keep this book clear, concise, and useful, it focuses on scientific and pseudoscientific apocalypses. That's not to say that there aren't plenty of *supernatural* ways for the world to end, from the return of magic to the Biblical prophecy of Revelations! A world destroyed by such means will have similar hazards (Chapter 2) and challenges (Chapter 3), but will require many unique ones as well: contagious magical curses, dragons, fissures to Hell, man-hunting angels of Judgment, and so on. See **GURPS Zombies** for ideas about magical curses, **GURPS Thaumatology** for more on areas of twisted and dangerous mana, and **GURPS Y2K** for more on Revelations specifically.

Mother Nature

The planet fighting back is the ultimate "angry green" theme. The GM will need to decide just what this means; which *parts* of the natural environment are trying to kill us? The weather? The tectonic plates? The plants? The animals? Something else? The hazards below are the most appropriate ones, but as for *Cosmic Rays,* with the right spin you can justify *any* hazard.

As the Primary Cause: Even if this was the cause, there was generally a prosaic reason behind it; e.g., we polluted too much, and ended up paying the price. Likely secondary effects include *Bombs Away* (if we fought back), *Mega-Virus* (new deadly spores, rabies from angry animals, etc.), and *Things Fall Apart* (we gave up in the face of overwhelming odds).

As a Secondary Effect: Nature's vengeance is an appropriate response to massive, global destruction, making this a common "apocalyptic symptom." If the primary cause was one with localized effects (e.g., *Bombs Away,* where some areas experienced far more destruction than others), this can produce interesting ecological shifts; one area might have thick snow and vicious animals, while another has waves of heat and mutated plants.

Appropriate Hazards: Every non-radioactive option under *Climate* (pp. 12-13) fits, from storms caused by extreme greenhouse effects to the permanent "ash winter" following a super-volcano eruption; *Disease* (pp. 13-15) in the form of mutated pollen, insect attacks, etc.; *Gangs* (pp. 15-17), such as eco-cults of bloodthirsty neo-Druids; *Mutants* (pp. 18-21) for animals and plants; and *Paramilitaries* (pp. 23-24).

Reign of Steel

In retrospect, maybe we shouldn't have made the robots so smart. This can take two forms, which can be combined. On a macroscopic scale, enemy bots wiped out most of humanity and are now an omnipresent, deadly threat. On a microscopic one, nanobots were unleashed as weapons (by either humans *or* those rogue robots) – capable of disassembling matter on a fundamental level. This implies that we reached a tech level (pp. 7-8) suitable for the bots in question (at least TL10 for truly threatening robots and TL11 for nanotech), but the GM can avoid this by splitting the TL ("The old world reached only TL8, but with TL11 robotics.").

As the Primary Cause: At heart, we're to blame for this one – the robots didn't build themselves. For this to be *the* apocalypse that slaughtered humanity, the robots must have been widespread; thus, this is a world in which enemy bots are *everywhere,* not just occasional threats. Likely secondary effects include
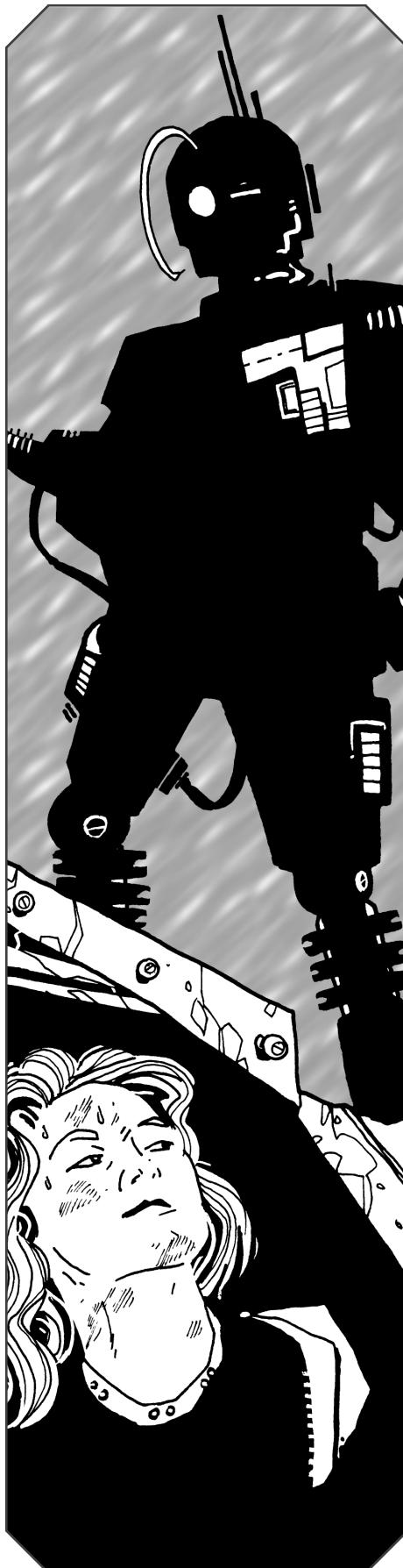
Bombs Away (either we or they used nukes), *Dinosaur Killer* (if the bots had access to satellites or spacecraft), *Mega-Virus* (a nanovirus or anti-human bioweapon), and *Things Fall Apart* (the aftermath of a robot-human war will strongly resemble that of a human-human one).

As a Secondary Effect: Robots and nanotech may have been our attempt to fix almost *any* other issue; e.g., a nanovirus engineered to combat a *Mega-Virus.* As a symptom, these threats don't have to be quite as ubiquitous. Instead, rogue bots and gray goo become just another hazard, though a common one.

Appropriate Hazards: This choice demands using *Nanotech* (pp. 22-23), *Rogue Bots* (pp. 25-27), or both. Other potential hazards include *Chemicals and Munitions* (pp. 9-11), as the bots are unlikely to care about proper toxin and explosives handling; *Disease* (pp. 13-15), as a nanotech side effect; and *Mutants* (pp. 18-21) if some nanotech rebuilds people. *Gangs* (pp. 15-17) are possible, but will be uncommon if this is the primary cause; when faced with a powerful inhuman threat, humanity tends to band together instead of attacking each other.

Things Fall Apart

Something undermined the structure of society itself, causing it to tear itself apart via countless small-scale events rather than one massive cataclysm. This could have any number of sociopolitical origins, but the most common are "conventional war" and "shortage of resources." The former was likely a series of civil wars, which explains why weapons of mass destruction were not used. The latter could have been a lack of anything vital – food, technology, money – as long as people were willing to kill each other over the last bits of it.

As the Primary Cause: This is the best option if you want a weirdness-free campaign – one without mutants, radiation, robots, etc. That doesn't mean you *can't* have such things, of course! Likely secondary effects include *Bombs Away* (for a mix of conventional and nuclear wars) and *Reign of Steel* (we couldn't count on humans at the end, so we built these machines).

As a Secondary Effect: Social collapse is actually more common as a secondary effect than a primary cause. When things go to Hell, much of humanity will begin attacking each other. Decide if the defining issue was warfare (implies battlefields and unexploded mines), shortages (leaving ruined farms and gutted grocery stores), or something else.

Appropriate Hazards: Gangs (pp. 15-17) and *Paramilitaries* (pp. 23-24) are part of what define this scenario; use one or preferably both! If there was a war, everything under *Chemicals and Munitions* (pp. 9-11) will be an issue; if not, the toxins mentioned there may still have leaked out due to the workers abandoning their posts.

> *Remember mad cow disease? Well, "mad cow" became "mad person" became "mad zombie." It's a fast-acting virus that left you with a swollen brain, a raging fever, that made you hateful, violent, and gave you a really, really bad case of the munchies.*
>
> *– Columbus, in **Zombieland***

Walkers and Shufflers

While the zombies in Chapter 2 can represent multiple things (victims, insane mutants, etc.), this trope is specifically about the walking dead: mobile corpses, stalking and eating the living – or maybe just their brains. Zombies are a popular post-apocalyptic element; fortunately, they're easy to justify adding to almost any game!

As the Primary Cause: This can usually be traced back to a government or corporate scientific program; what matters is that nothing was in the process of ending the world until the zombies got loose. Then, they multiplied quickly enough that they were *everywhere.* A handful of zombies can't do enough damage to end the world on their own, so if this is the primary cause, Earth has to be overrun. Likely secondary effects include *Bombs Away* (it's okay to nuke our own cities if everyone in them is dead!), *Mega-Virus* (the zombie flu virus may do strange things to the living), *Reign of Steel* (not a common trope, but why not fight flesh with steel?), and *Things Fall Apart* (a war between the living and dead, fought right here at home).

As a Secondary Effect: If the zombies don't have to be *the* thing that ended the world, you can use as few or as many of them as you like; they work well as an occasional to common threat. Fiction has given zombies *many* origins, from "mutated human germs" to "something that fell from outer space" – so feel free to craft whatever origin story fits your game!

Appropriate Hazards: Zombies (pp. 27-29), obviously. Other potential hazards include *Chemicals and Munitions* (pp. 9-11) if the decomposing zombies are toxic; *Disease* (pp. 13-15), either in the form of the zombie flu itself or from all the rotting flesh walking around; *Gangs* (pp. 15-17); *Mutants* (pp. 18-21) if it's possible to become "partially infected"; and *Paramilitaries* (pp. 23-24).

X-Factor

While not common, aliens do show up in some post-apocalyptic fiction and games. They are rarely the main threat; instead, they tend to be the force that instigated the end of the world. (See "The Day the World Broke" in *Pyramid #3/3: Venturing Into the Badlands* for a worked example.) Still, *War of the Worlds* and similar alien invasion stories show that there's a place for a direct alien presence in the new world.

As the Primary Cause: Either the aliens invaded us directly, or they are the *deus ex machina* that started one or more secondary effects, such as *Bombs Away* (they nuked us from orbit), *Cosmic Rays* (projected from their spacecraft), *Dinosaur Killer* (those meteors were launched from a railgun!), *Mega-Virus* (high-tech germ warfare), *Reign of Steel* (if they release their robotic weapons en masse), or *Walkers and Shufflers* (they can turn the dead against us).

As a Secondary Effect: It's uncommon for aliens to show up after something unrelated happens, but it's always possible that a sufficiently vast apocalypse may get the attention of beings who are already keeping an eye on Earth, prompting them to move in and take over. They may not even be *technically* hostile, seeing themselves as a benevolent force acting for the good of humanity . . . but their "ideal society" might resemble our idea of "prison camp" or even "zombie corral"!

Appropriate Hazards: Aliens (p. 20), but only if they actually came down to Earth to deal with us; *Chemicals and Munitions* (pp. 9-11), both ours and theirs; *Mutants* (pp. 18-21), as the result of their experimentation; *Nanotech* (pp. 22-23) used for defense or as a tool; *Paramilitaries* (pp. 23-24), formed to fight the aliens but now corrupt; *Radiation* (p. 25) leaking from alien wreckage, discarded power cells, etc.; and *Rogue Bots* (pp. 25-27) guarding their installations.

TECH LEVEL

As discussed in **Wastelanders,** a post-apocalyptic game has a *range* of TLs, not a single fixed one. The lower bound will always be TL0, but it's up to the GM to set the upper bound. How advanced was civilization before it ended?

After the End assumes that we made it to at least TL8 before the apocalypse, but there's no reason the date can't be pushed further into the past. For example, a world in which WWI introduced germ warfare that ended civilization would have gear from TL0 to TL6. This does not change the *Equipment Cost Table* (**Wastelanders,** p. 29).

A more advanced world will have gear available from higher TLs. The GM should look carefully at the kind of technology he wants in his game and set the upper bound accordingly. Choosing TL9 gives the world battlesuits and limited beam weapons. With TL10, you get swarmbots, morphing materials, and mature lasers. At TL11, nanotechnology enters its own; it's capable of assembling items out of anything, rebuilding them, or quickly destroying them. And TL12 gear is practically magic, with effects limited only to the imagination. The higher the TL chosen, the more useful **GURPS Ultra-Tech** will be, as the gear in the **Basic Set** is focused on TL0-8.
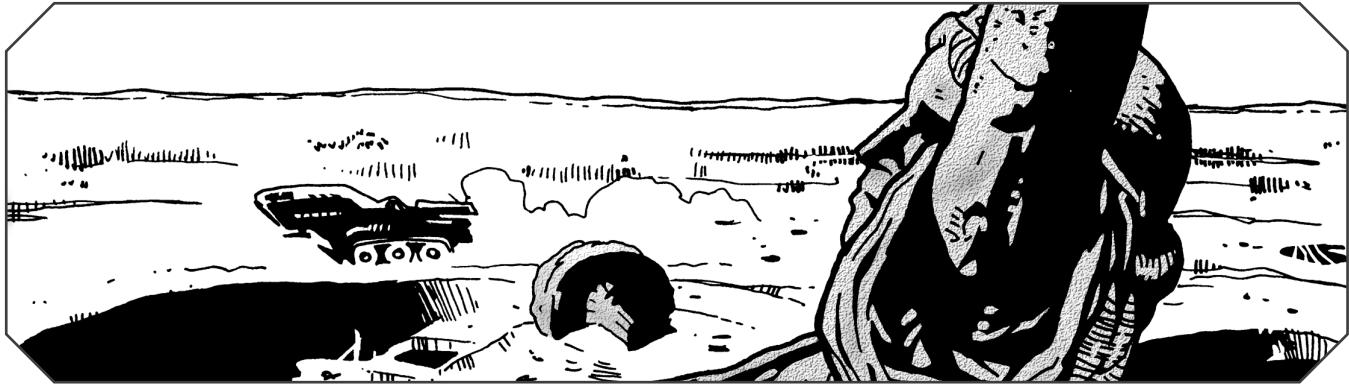
Having access to high-tech gear can greatly change the feel of the game; if the PCs are all armed with heavy blaster rifles, a "mere" colossus (p. 19) or two may seem quaint rather than challenging. At the beginning of the game, the high price tags of such things ensure that they won't be an issue; once the game gets underway, see *Gear* (pp. 51-52) for advice.

How Long Ago?

In addition to deciding when the apocalypse happened (*Tech Level,* pp. 7-8), it's important to determine how long it's been since. More time between "then" and "now" makes the old world more of a legend and mystery, rather than a concrete fact. It also affects the quality of ruins, specifically their structural integrity (see This Old House, pp. 34-35). *After the End* games should take place some time from two to 10 generations after the apocalypse:

Two or Three Generations: All but the oldest adults were born into the wasteland, but that still leaves quite a few people who lived in the old world and witnessed its end. The youngsters have been told these stories, either by the old-timers directly or by someone who heard it from them, which gives everyone a fairly accurate view of what the world used to be like. Anthropology rolls are not required for broad questions ("What was important about New York?") but are still necessary to obtain specific information ("How did the subway system work?"). Most ruins are still fairly intact (assuming an area not devastated by bombs, tsunamis, etc., of course); rolls for structural integrity are at no penalty.

Four to Six Generations: No one who survived the apocalypse is alive now, but it is still a fairly recent memory. At this point, the stories have all been retold a few times, leading to the more boring facts being glossed over in favor of sensational tales that make for better legends. Anthropology rolls are needed for anything other than very basic and general questions about society *as a whole* ("What was money?"). Ruins of the old world are starting to fall apart; rolls for structural integrity are at -1.

Seven to 10 Generations: Most people are aware of how the world "ended" (in general) and that civilization used to be different before the apocalypse, but the details have nearly faded. *Very* few people are trying to restore the world to how it was; that would be like our society trying to turn the world back into the Garden of Eden. Anthropology is somewhat rare; rolls against it are needed for *any* questions about the old world. Ruins are crumbling into pieces; rolls for structural integrity are at -2.

Even Longer: At this point, the genre starts to switch from "post-apocalyptic" to "future fantasy or sci-fi." It's harder to justify the basic tropes: a hazardous wasteland (we've had so long to clear out the dangers), a decimated populace (we've had plenty of time to breed), and rare technology (we should have reinvented everything from scratch by now). And if we *haven't* been able to deal with these threats and issues by now, how have we even survived? Thus, this is not a particularly good fit for an *After the End* game. If the GM uses it, he may want to remove Anthropology skill altogether, or penalize rolls for any specific information; e.g., "Why was oil important?" would be an unmodified roll, "What countries produced oil?" would be at -4, and "How did oil affect the economy?" would be at -8. Intact ruins will be extremely rare; rolls for structural integrity are at -4 or worse.

The Prodigal Colony Returns

The more advanced the pre-apocalyptic tech level (pp. 7-8), the greater the odds that humanity established colonies on other planets before the world ended. This becomes possible at TL9+ and *likely* at TL11+. Of course, just because a colony exists doesn't mean that they'll realize there's a problem back on Earth, or that they'll have the resources to help! But the *expectation* of being rescued is a wonderful inspiration for "cargo cults" and the desperate. And if the campaign starts to get tiresome, a story arc in which the colonists *do* come back and fix the world's problems can be a good way to segue into another genre.

Even Shorter

Technically, a "post-apocalyptic" setting can take place within years (or weeks, or hours!) of the world ending – but this is a *significantly* different genre. Such a game would be focused on maintaining order, keeping people safe, trying to make contact with others, and (most important) doing everything possible to get the world back to how it was. This is in many ways the *opposite* of an *After the End* game, which accepts the wasteland as the new world and sends the PCs out into it for adventure. Thus, this book does not address the challenges specific to such an "apocalypse now" game, though the GM may still find the rules and advice herein to be useful.

Wasteland Hazards

The new world is full of things that can kill wastelanders, from passive environmental dangers to twisted caricatures of humanity that are out for blood. This means folks have two options when it comes to staying alive: learn to overcome these challenges on a regular basis or hide inside a bunker for their entire lives until the challenges eventually find *them*. **After the End** assumes that the heroes have chosen the former.

The GM should follow the guidelines in Chapter 1 when deciding which of these hazards to include and how common to make each one. For example, if Earth has been ravaged by a mega-virus, the GM might use *everything* listed under *Disease* (pp. 13-15) and declare nearly every area infected – but if the world was ended by a zombie uprising, he might add only a few strategically placed germs. The best method is to designate one or two *focus hazards:* specific perils that define the theme of the world. Then other threats can be used more sparingly to add variety and danger to the wasteland. This will keep the players from feeling overwhelmed, and allow them to create heroes capable of dealing with the campaign's particular hazards.

After making these decisions, it's important for the GM to share them with the players, so they know how to build their characters. He doesn't have to reveal any secrets or be overly specific: "In this world, rogue bots will be a huge issue. They're everywhere. Because they scorched the sky, everything is freezing as well, so be prepared for ice and snow. Radiation, toxins, munitions, and nanotech will pop up occasionally. Other hazards will be relatively rare."

Adding New Hazards

Another advantage to using only some of the hazards in this chapter is that it allows the GM to hold a few "in reserve." If things start to feel a bit stale in a long-running game, he can spice things up by adding in another element. This works best if the new threat can be introduced and explained in-game, rather than simply dropping it in!

Example: Amy's current **After the End** game is focused on disease and human issues (such as gangs and mercenaries), but now she wants to surprise her players by adding zombies. She starts by introducing a "wildcard" paramilitary group with an underground lab complex – scientists and soldiers that the PCs don't completely trust, but can deal with as equals. Over time, the heroes learn that the paramilitary is trying to cure the mega-virus, culminating in an adventure in which the wastelanders obtain needed samples for the scientists. When the cure is tested, the underground complex gets infected with zombie flu, and the PCs' former allies have become the newest threat to the wasteland!

If there's no organic way to introduce a hazard, consider a new apocalypse! Any of the scenarios listed under *Cause and Effects* (pp. 4-7) can happen to the wasteland as easily as they could to the civilized world. The long-term effects are likely to be *far* milder, however, as there's no society left to destroy. With humanity spread out (rather than clumped up in cities) and used to fending for themselves in an uncaring world, a new apocalyptic-level disaster will still be a major, world-changing event – but one that most people will quickly adapt to.

> In the beginning the Sentinels were just targeting mutants, then they began to identify the genetics in non-mutants who'd eventually have mutant children or grandchildren. Then they started targeting everybody.
>
> – Wolverine, in **X-Men: Days of Future Past**

Chemicals and Munitions

Every industrial society leaves plenty of waste lying around – some of it downright dangerous. If there was a war, things are *much* worse; actual weapons ended up buried beneath the sands, some lurking dormant for decades, still waiting to destroy an enemy that no longer exists. Note that DR will protect against contact agents, but DR (Tough Skin) will not.

Toxic Waste

In the old world, environmental regulations required proper storage of hazardous chemicals, be they toxic, corrosive, carcinogenic, or something else. This had the unfortunate side effect of concentrating the danger, as the various substances all mixed together and formed strange new compounds. When the sites were being monitored by vigilant workers, this wasn't a real issue, but now . . .

Typical concentrated toxic waste is a contact agent with a one-hour delay and a HT-3 roll to resist (or HT-5 if it was *ingested*). It inflicts 1 point of toxic damage, repeating at eight-hour intervals for 22 cycles (one week). Victims are continually nauseated after losing 1/2 HP and *also* in moderate pain after losing 2/3 HP (see p. B428 for both). If the effects are properly diagnosed with **Diagnosis** or **Poisons,** healers can use **Physician** in concert with any of **Chemistry, Pharmacy,** or **Poisons** to stop the damage progression.

Some toxic waste is irradiated as well (*Radiation,* p. 25). This uses the same rules as above, but for every 2 HP lost, the victim *also* loses 1 RP. As for HP, these RP cannot be recovered until the toxin is cured or runs its course (see p. B438).

Use **Hazardous Materials (Chemical)** to determine how to best handle, neutralize, or clean up the waste, or to answer questions about the methods used to store or transport it. Use **Chemistry** (at -5 with a nonchemistry lab or -10 with no lab equipment at all) to analyze the components which make up this specific waste and predict its effects on others.

Toxic-Waste Spills

Many waste-storage containers and trucks have long since cracked open and leaked their dangerous contents. Sadly, this is not always obvious; much toxic waste resembles oily water. Make a *Per*-based **Hazardous Materials (Chemical)** roll to spot and identify such a spill. This roll is at +5 (or a straight **Per** roll) if the goo can be seen leaking out of its original container, truck, etc.; this will be rare, however, as liquid waste will always seek low ground (moving away from its source unless it spilled out onto *completely* flat land), and looters will commonly strip down trucks and barrels for parts.

Toxic-Waste Dumps

Storage centers that *haven't* cracked open can still be dangerous, especially if the warning markings have long since eroded away. Interpreting the signs of a clearly marked toxic-waste dump requires only an **IQ** roll, or a **Hazardous Materials (Chemical)** roll at +5. Without said markings or signs, only an unmodified **Hazardous Materials (Chemical)** roll will allow a visitor to realize that the ruins (pp. 32-36) he's about to enter hold things that he *really* doesn't want!

Toxic-waste dumps are dangerous to scavenge (pp. 36-38); any "location-specific stuff" will be stored waste! Upon seeing it, the scrounger gets *one* **Hazardous Materials (Chemical)** roll to realize the truth in time; if this fails, he's exposed to a full dose. If multiple people roll this result during the same scavenging attempt, make *one* **Hazardous Materials (Chemical)** roll for the group, using their best skill; if it fails, one random person comes into contact with the waste, and every other teammate must make a **Dodge** roll or suffer the same fate.

Chemical Weapons

Chemical warfare is an ugly thing, but the low cost of such weapons made them a popular choice among poorer nations. See *Poison Examples* (p. B439) for the weapons a wastelander will most likely encounter: mustard gas, nerve gas, smoke (e.g., from smoke grenades or burning rubber or plastic), and tear gas.

When used outdoors, the weather will soon wash away any trace of these chemicals. However, in areas where such weapons were used inside, the residue may stick around for a much longer time; entering the room can be just as deadly as getting hit with a fresh spray!

Chemical weapons are also frequently set up as booby traps (p. 36). The GM should be very careful when using such traps, as canny PCs will attempt to disarm them and keep the chemical for themselves; a group of wastelanders with a tank of nerve gas can be hard to challenge! If it *does* happen, a **Hazardous Materials (Chemical)** roll is required every time the stuff is used, transported, etc., to avoid a nasty accident.

Apply the same rules as *Toxic Waste* (above) for identifying, neutralizing, etc., chemical weapons. In addition, **Soldier** (at an extra -4) may be substituted for Hazardous Materials (Chemical) to reflect drills inspired by pre-apocalypse training manuals – and the victim (only) may replace Diagnosis or Poisons with an unmodified **Soldier** roll to self-diagnose the problem.

Wake up, Mr. Freeman. Wake up and smell the ashes.

– G-Man, in **Half-Life 2**

Other Substances

In addition to waste and weapons, some nasty chemicals are just floating around the wasteland! Adventurers may encounter these in many different ways, from ponds of sludge (treat as *Toxic-Waste Spills*, above) to clouds of deadly particles in the air (treat as a fallout sandstorm, p. 13, but with a toxin instead of radioactive dust). Other specific examples include the following.

Aerosol Particulates

Some weapons and environmental disasters produced enough force to reduce rocks, sand, and even metal to a fine powder. These *particulates* became suspended in the air, forming an *aerosol*. Such an aerosol is difficult to notice, even when breathing it! A *Per*-based **Hazardous Materials (Chemical)** roll, or **Per** roll at -5, will let a wastelander recognize a cloud before entering it; this roll takes Vision modifiers (e.g., Acute Vision, darkness penalties). He gets a second roll upon first entering the cloud; if this is successful, he can back out of it immediately and avoid any ill effects.

Otherwise, he won't realize anything is wrong until he starts losing FP (see below).

A typical aerosol is a respiratory agent with a one-minute delay and a HT roll to resist. It inflicts 1d-2 fatigue damage, repeating at 12-hour intervals for 15 cycles (one week). A victim cannot stop coughing (p. B428) after losing 1/3 FP, moves down one "fitness level" (on the table below) after losing 1/2 FP, and moves down *another* "fitness level" after losing 2/3 FP. If his HT roll is ever a critical failure, roll against HT again immediately; if this second roll fails, his FP score drops by 1 *permanently!*

Aerosol particulates cannot be weaponized. Any attempt to bottle or otherwise contain them will result in the suspension settling, eliminating the threat.

Fitness Levels	Fitness Levels
1. Very Fit	5. Very Unfit
2. Fit	6. Very Unfit *and* -1 HT
3. (No special trait)	7. Very Unfit *and* -2 HT
4. Unfit	

Alkaline Mud

This industrial waste product is a caustic, thick sludge, frequently found around old factories. Anyone walking through it must make a **ST** roll each turn at +2; the margin of success is the subject's maximum Move. On a critical failure, the subject becomes mired up to his knees and must make a ST roll at -5 each turn to regain movement. Others may help pull the victim free; use the single highest ST plus 1/5 of everyone else's ST.

Anyone in contact with the mud takes 1 point of corrosion damage every five seconds. This damage is to the feet, or to the legs if mired. Foot or leg DR protects normally, but every five points of damage permanently reduces DR by 1. Those walking through the mud will not automatically realize its caustic properties until they are injured.

A *Per*-based **Hazardous Materials (Chemical)** roll, or **Per** roll at -5, will identify alkaline mud upon entering or examining it. There is no simple way to identify it from a distance.

Irradiated Heavy Metals

If heavy metals are turned into aerosol particulates (pp. 10-11) via a nuclear explosion – or are otherwise irradiated – they become especially deadly. Treat as a normal aerosol particulate, but resisted at HT-3 and doing fatigue, toxic, *and* radiation damage! The victim loses 1d-2 FP, 1d-2 HP, and 1d-2 RP every 12 hours if he fails to resist. This lasts *indefinitely* until he finally resists or dies.

Unlike most particulates, irradiated heavy metals are dangerous even when suspended in liquid; someone may roll against *Per*-based **Hazardous Materials (Chemical** or **Radioactive)** to notice before he drinks it. Treat this as a digestive poison with a three-hour delay and a HT-3 roll to resist. It inflicts 1d-2 toxic and 1d-2 radiation damage, repeating at 12-hour intervals for 15 cycles (one week). There are no special symptoms other than the radiation poisoning.

Mutagen

This substance is appropriate only if mutants (pp. 18-21) exist in the campaign setting. This nasty goo is infused with whatever causes mutations in the game: radiation, viruses, nanobots, etc. Treat it as toxic waste (p. 10) – possibly irradiated. However, if a victim is reduced to 0 HP or less from the damage, immediately roll against his HT. The result determines how he changes once he recovers back to full HP; see Chapter 3 of *Wastelanders* for details.

Critical Success: He gains 1d-3 (minimum 1) new mutations (GM's choice). However, he must *also* roll on the *Side Effects Table* (**Wastelanders,** pp. 25-26) once for every *full* 10 points in new mutations added.

Success: He gains 1d-4 (minimum 1) new mutations, but must also roll on the *Side Effects Table* once for every 5 points, or fraction thereof, in new mutations added.

Failure: He must roll once on the *Side Effects Table.*

Critical Failure: He must roll (1d/2)+1 (round up) times on the *Side Effects Table.*

BOMBS AND MINES

Similar to chemical weapons (p. 10), explosive ordnance has a distressing tendency to lie around, unexploded, for many, many years after a war ends. Bombs may do almost *any* amount of damage – from 6d×3 to 6d×60 crushing explosive damage is common – while a typical small land mine does 8d [2d] crushing explosive. In all cases, you can answer general questions about any given explosive with a roll against **Explosives (Demolition** or **EOD)** or **Soldier.**

Spotting Them

Some bombs are easy to see; if a missile is sticking halfway out of a field, there's no roll needed to identify it as such. If anyone has gone to the trouble of *hiding* the bomb, this is a Quick Contest of your **Search** against the person's Camouflage or Smuggling skill.

Mines and other buried bombs are trickier. Most minefields were clearly labeled . . . decades ago. An **Observation** or *Per*-based **Soldier** roll, at normal speed/range penalties, will identify a minefield from a distance. **Danger Sense** will warn you as soon as you enter a field. Finding each *individual* mine takes a minute and an **Explosives (EOD)** or **Search** roll, or **Soldier** roll at -5; critical failure means you found one . . . by setting it off.

Defusing Them

Disarming a bomb or land mine requires an **Explosives (EOD)** roll and about five minutes of effort; use *Time Spent* (p. B346) to work faster or slower. Some models have anti-tamper devices, which penalize the roll (typically from -1 to -3). This roll is also modified by the quality of the Explosives tool kit. Improvised tools (e.g., a multi-tool and duct tape) give -5. Since most wastelanders must get by with poor tools, the GM should avoid excessive anti-tamper penalties! Failure detonates the device, but the disarmer may use **Dodge** to dive for cover or distance (p. B377). Critical failure detonates it while in contact with his body, for *maximum* possible damage!

Nuclear weapons are treated similarly, but the skill needed is **Explosives (Nuclear Ordnance Disposal).** Also, a normal failure merely scuffs contacts and damages wires; further rolls are at a cumulative -1. On a critical failure, roll again; a *second* critical failure blows it up, otherwise treat it as an ordinary failure.

CLIMATE

There's nothing quite as global as the weather system. When even *that's* been broken, it really drives home how bad a shape the world is in. These rules are often used with *Survival* (pp. 30-32). In all cases below, whenever **Survival** is mentioned without an explicit specialty, the specialty is for the current terrain. Also note that all land-based Survival specialties default to Per-5, Naturalist-3, or Survival (other terrain)-3.

See *Wastelanders* (p. 24) for an explanation of Long-Term Fatigue Points (LFP), and p. B351 for details on hiking.

Temperature Tolerance

For simplicity, **Temperature Tolerance** should be defined as applying to cold, heat, or split between the two. Instead of doing detailed calculations, assume that every level of "cold" Temperature Tolerance adds +2 to *all* HT rolls to resist losing FP or LFP in cold weather, every level of "heat" Temperature Tolerance adds +2 to the same for hot weather, and every level of "split" Temperature Tolerance adds +1 to *both* types of rolls. See *Cold* and *Heat* for details.

COLD

A new ice age means freezing weather everywhere! The usual effect of cold weather is lost FP, which (due to the simplified FP rules) can be regained via regular rest breaks; thus, the GM should avoid detailed tracking. If the party is pushing themselves, assume that all FP costs are *doubled* in below-freezing weather.

The real danger is long-term fatigue. Someone exposed to subfreezing temperatures (below 35°F) for an hour or more must roll against **HT** (or *HT*-based **Survival (Arctic),** if better) every four hours or fraction thereof. On a failure, he loses 1 FP and gains 1 LFP; this is *doubled* if his margin of failure is 5+, and *tripled* on a critical failure!

Modifiers: Any bonus for Temperature Tolerance (above); -5 for light or no clothing, no modifier for winter clothing, or +5 for special arctic clothing; -5 if wet; +5 if clothed and in a sleeping bag or fur; from -1 to -10 for extremely low temperatures and fast winds (GM's call).

Ice

Stable travel on ice is possible only at half Move (round down, minimum Move 1). Any faster, and the trekker must roll against DX *each turn,* at a penalty equal to the number of yards moved this turn. Failure means he slips and falls; on a critical failure, the fall does 1d-3 crushing damage. For hiking, ice is Bad terrain.

This can be avoided by wearing ice skates, which allow full Move over ice (and treat it as Good terrain for hiking). They can even grant Enhanced Move 1 (Ground) over ice, but this requires a successful **Skating** roll every hour of travel. In combat, no rolls are necessary, but on a turn in which you move (even a step), your effective unarmed or weapon skill cannot exceed your *DX*-based Skating skill!

Snow

Ankle-deep snow halves Move and hiking speed, and anything deeper quarters it (or worse, at the GM's discretion)! Round down, with a minimum Move 1. Knee-deep snow imposes -1 on any physical action involving the legs (including melee combat). Waist-deep snow imposes -2 on any such roll, -1 on any *other* physical action, and -1 to all active defenses!

Snowshoes make snow far easier to navigate. The wearer treats *all* snow as ankle-deep, but has only -1 to Move (minimum Move 1) instead of halving it. No special skill is required to use snowshoes.

Skis allow normal Move across snow, half Move uphill, and up to 4×Move downhill – but they require a successful **Skiing** roll every hour of travel. In combat, no rolls are needed, but on a turn in which you move (even a step), your effective unarmed or weapon skill cannot exceed your *DX*-based Skiing skill!

HEAT

Weapons and disasters that release greenhouse gases or destroy the ozone layer can increase the temperature of the world. As discussed for *Cold* (above), either ignore short-term FP or assume that costs are doubled. The real danger is long-term loss. Anyone exposed to temperatures above 90°F for an hour or more must roll against **HT** (or *HT*-based **Survival (Desert),** if better) every four hours, or fraction thereof. On a failure, he loses 1 FP and gains 1 LFP; this is *doubled* if his margin of failure is 5+, and *tripled* on a critical failure.

Modifiers: Any bonus for Temperature Tolerance (above); a penalty equal to your encumbrance level (-1 for Light, -2 for Medium, etc.); from -1 to -10 for extreme heat or humidity (GM's call).

STORMS

The less mobile a group is, the greater the danger they face from storms. A settlement has no choice but to head under cover and wait it out. Encamped wanderers must decide whether to hunker down or try to pack up everything quickly (p. 32) and get away. Traveling wastelanders can simply run away from the storm if at all possible – but if that *isn't* possible, they may be unable to find nearby cover.

Acid Rain

Any scenario that releases lots of chemicals (pp. 9-11) into the environment can create acid rain. This isn't the realistic weather condition from the old world, but a dangerous shower of corrosive fluids! Make a **Survival** or **Weather Sense** roll, at normal speed/range penalties, to tell the difference between acid rain and normal rain from a distance. If this fails, you get a second roll upon getting wet from the rain.

Acid rain does 1 point of corrosion damage per minute. Depending on the size of the storm and how fast it's moving (roll 2d-1 for Move if unsure), this can make it a minor hazard or a life-threatening event. If the storm can outpace the wastelanders, their only option may be to run *into* the rain, hoping to reach the far side and escape as quickly as possible.

Fallout Rain

Nuclear fallout can make its way into clouds, and thus rain, as well. Treat this as acid rain, but everyone loses 1 RP per minute instead. It's possible to have rain that *combines* the two effects, but this will be rare.

Hyperstorms

These sudden, violent tempests can form in an unstable and energetic weather system. A hyperstorm gives little warning – the sky is clear one minute, then full of wind and lightning the next. Roll against **Survival** or **Weather Sense** to sense the electrical tingles that precede one; there is no way to detect one forming at a distance. Add 1 to your margin of success, then square it; that's how many seconds of warning you get!

Once a hyperstorm starts, wind whips through the area, giving everyone -2 on *all* physical actions and -1 to active defenses. In a dry, sandy area, this *also* has the effect of a sandstorm (below)! In a humid environment, it will instead be accompanied by rain (-2 to all Sense rolls). While this is happening, small balls of lightning randomly arc between targets. Every 10 seconds, everyone in the area must roll 3d; on an 8 or less, they must dodge or be struck by lightning for 4d burning surge damage!

Fortunately, a typical hyperstorm lasts only 2d×5 seconds before fading rapidly away.

Sandstorms

When strong winds meet dry and sandy terrain (e.g., a desert), the result is a sandstorm. Sandstorms are easy to detect from a distance; roll against **Vision, Survival** (with Vision modifiers), or *Per*-based **Weather Sense** (with Vision modifiers) at +10, minus range penalties. They're not always easy to *avoid,* though; they can be hundreds of yards across and are often fast (roll 2d+1 for a typical sandstorm's Move).

In a sandstorm, all Sense rolls are at -5 (and Vision rolls *never* get the +10 for targets being in plain sight), all physical actions are at -2, and all active defenses are at -1. Everyone who is *not* linked in some way (e.g., holding hands or roped together) must make a **Survival** roll to avoid becoming separated from the group. Anyone in the storm must roll vs. HT or be blinded until he can wash his eyes out; **Nictitating Membrane** adds its level, while **Protected Vision** (natural or from goggles) gives +5. Anyone unable to cover his mouth must roll against HT+5 to avoid coughing (p. B428) until the storm passes. Finally, the whipping sand particles do 1 point of corrosion damage per five minutes.

Fallout Sandstorms

In an area with radioactive fallout, the winds pick *that* up as well. Those inside of such a storm lose 1 RP per five minutes in addition to the effects above. Anyone who fails the HT+5 roll to avoid coughing loses 1 RP per *minute* instead, due to ingested particles!

WATER

In many settings, all large bodies of water are poisonous or otherwise unsafe. The specifics depend on just how bad the GM wants it to be. None except *acidic* affect water transportation, but all affect rolls to forage for water (p. 31). Anyone swimming or wading in the water (but not merely splashed with it) is considered "exposed" to it.

Tainted: The water has trace amounts of disease or radiation in it. One hour of exposure is like consuming a pint of tainted water (*Wastelanders,* p. 30). -1 to water foraging rolls.

Mildly Toxic: Those exposed take 1 point of toxic damage per hour. -1 to water foraging rolls.

Irradiated: The water is dangerously radioactive; lose 1 RP per five minutes of exposure. -3 to water foraging rolls.

Diseased: As for *Tainted* (with disease), above, but all HT rolls are at an extra -4 and a contagion roll must be made every five minutes of exposure. -3 to water foraging rolls.

Severely Toxic: Exposure causes 1 point of toxic damage per five minutes. -3 to water foraging rolls.

Acidic: The water causes 1 point of toxic damage per minute *and* 1 point of corrosion damage per 10 minutes. Long-distance water travel is effectively impossible. -6 to water foraging rolls.

DISEASE

The tiniest one-celled creatures can be deadlier than anything else on Earth . . . particularly when they've been mutated, bioengineered, or brought to us from the deepest reaches of space.

DEALING WITH PLAGUES

All of these rules assume the disease being encountered is a new, unfamiliar one. Rolls to identify a known disease or treat a disease that's already been cured are at +10. Rolls to identify a variant of an existing, known disease or to treat said variant are at +5.

Discovery: When encountering the infected, anyone may make a *Per*-based roll against the best of **Diagnosis** at -4, **First Aid** at -12, **Hazardous Materials (Biological)** at -10, **Physician** at -8, or **Veterinary** at -9 (but for animals only!) to notice something "sick" about them. If more than two infected subjects are encountered, look up the number of victims (as "yards") on the "Linear Measurement" column of the *Size and Speed/Range Table* (p. B550), and apply a bonus equal to the "Size" column. In addition, the GM may modify this roll from -4 to +4 depending on how obvious the symptoms are – or the subjects themselves may be aware and warning off visitors.

Even a critical success here doesn't identify what the actual problem is, though it does provide +1 to a later analysis roll (see below).

Interaction: Any group knowingly dealing with infected victims may make a **Hazardous Materials (Biological)** roll every day to avoid exposure (below). Use the best skill in the party, at -1 for every teammate who lacks the skill altogether. A successful **Chemistry** roll can improvise a successful disinfectant; using it gives +2 to these rolls.

Exposure: If the team failed a Hazardous Materials roll, one random member (or *all* of them on a critical failure) was exposed, and must make a HT roll at the penalty listed for the disease in question. If the wastelanders weren't even aware there *was* an infection problem, then everyone must make such a "contagion roll" each day (see p. B443). Antibiotics (p. B289) give +1d to all HT rolls involving bacterial diseases (roll once per particular strain); this replaces the flat bonus found in other *GURPS* books, to represent the wide variety of strains and mutations found in the wasteland. The GM can decide if a disease is bacterial or roll 1d (1-3, bacterial; 4-6, viral or "other").

Analysis: A one-hour exam of a patient and a successful **Diagnosis** roll will confirm the infection and give the doctor a *rough* description of the disease (e.g., "a mega-flu that hits hard and fast"). Success by 5+ or a critical success gives the full statistics, as does analyzing blood samples (which requires four hours and a successful **Biology** or **Physician** roll, at -5 for a nonmedical lab or -10 for no lab equipment at all). Having notes on the disease gives an extra +1 to +4, depending on how extensive they are, and a previous critical success on the discovery roll (above) gives +1.

Treatment: Someone who has successfully analyzed a disease (to the point of knowing its full statistics) may attempt to invent (pp. 40-41) a treatment for it using **Biology** (at an extra -5), **Chemistry** (at an extra -5), or **Pharmacy.** Treat a *suppressant* (that controls only the symptoms and contagion) as a $10,000 invention; a *vaccine* (that prevents, but doesn't cure, the disease) as a $1,000,000 invention; and an *antidote* (that cures an infected person) as a $5,000,000 invention. In all cases, only this strain of the disease is affected – if it mutates, variant treatments will be needed as well, created at the usual +5.

IMMUNITY

Anyone who catches, and survives, a particular disease becomes immune to that one strain. In practice, however, this rarely means much – in any *After the End* game where diseases are an issue, they evolve and mutate into new strains all the time! Even if these variants have the exact same game statistics, they can still count as "new" for the purpose of reinfection – at most, having survived a previous strain gives +1d/2 (round up) to resist a new variant.

In a sickness-heavy game, **Immunity to Disease** may be the most valuable advantage around, with **Resistant to Disease** coming right behind. Because of that, the GM may wish to restrict access to these, or at least disallow immunity; doing so guarantees that the PCs will have reason to fear the mighty germ!

However, it's just as valid to *encourage* players to take these traits. The GM may even allow **Immunity to (One Specific Disease)** as a perk. This shifts the focus off of *personal* danger and onto the damage being done to the world, and the NPCs in it. If the zombie flu (p. 15) exists, it makes particular sense to allow PCs to take these traits, as it explains why they are the ones willing to head out into the wasteland to deal with these menaces!

Carriers

One dangerous form of immunity is an immune system that prevents a disease from infecting a person, but doesn't eliminate it from his body. This turns him into a *carrier* (sometimes called a "Typhoid Mary") – someone who appears perfectly healthy but forces contagion rolls from everyone he comes into contact with. Discovery rolls (*Dealing with Plagues,* pp. 13-14) are made at -6 against a carrier.

It's possible for some (or all) of the PCs to become carriers! If this is something they know at the beginning of the game, treat it as a -50% limitation on **Resistant** or **Immunity to Disease.** (The immunity perk becomes a zero-point feature.) If not, it could happen via a rare mutation of a specific germ, or if an immune person critically fails a HT roll while dealing with the infected. Until the oblivious carriers figure out what's going on (the GM *has* to keep it a secret), they'll be shocked at how many infected people they keep running into!

SAMPLE DISEASES

All symptoms below are noncumulative; e.g., a victim who loses 2/3 HP to cholera is at a net -8 to ST and HT, not a net -14.

Cholera: A digestive agent contracted by drinking contaminated water; it is very common, but not contagious. Cholera is resisted at HT and has a 1d-3 day delay. It does 1d points of toxic damage per one-day cycle, for a total of 1d+1 cycles. Symptoms are ST-2 and HT-2 once 1/3 HP are lost, ST-4 and HT-4 once 1/2 HP are lost, and ST-8 and HT-8 once 2/3 HP are lost; attributes will not go below 3, and attribute damage will be recovered when the toxic damage is healed. Cholera kills via dehydration; every full gallon of water drunk in a given day gives +1 to the victim's HT roll for that day (maximum +4).

Ebola-B: A contact agent, resisted at HT-7, with a 1d+2 day delay. It does 1d points of toxic damage per one-day cycle, for a total of 1d+1 cycles. Symptoms are IQ-2 once 1/3 HP are lost; IQ-6 and Bad Temper (12) once 1/2 HP are lost; and IQ-10, Bad Temper (12), and Hemophilia once 2/3 HP are lost. (A victim who already had Bad Temper instead gains Berserk with the same self-control number.) Lost IQ is *not* recovered automatically if the victim regains his HP; instead, he must make a HT roll each day after fighting off the disease, regaining 1 point of IQ only on a *critical* success.

Mega-Flu: A mildly contagious respiratory agent, resisted at HT-4, with a 1d+7 hour delay. It does 2 points of toxic damage per one-day cycle, for a total of 30 cycles. Symptoms are nausea once 1/3 HP are lost; this persists until the victim rises back above 2/3 HP. Antibiotics give no bonus against this flu.

Mnemosyne Plague: A contact agent, resisted at HT-3, with a six-hour delay. It does 1 point of toxic damage per six-hour cycle, for a total of 1d+1 cycles. Symptoms are IQ-2 and HT-4 once 1/3 HP are lost; IQ-4, HT-8, and Absent-Mindedness once 1/2 HP are lost; and IQ-6, HT-12, and Total Amnesia once 2/3 HP are lost. IQ is recovered as for Ebola-B (above).

Zombie Flu: See *Infection* (p. 28) for details. Many fictional takes on zombies treat it as a disease – one that kills the living, then causes them to rise from the dead. However, it's just as valid to separate the two notions. "Zombie flu" then becomes a standalone disease that, once contracted, will cause you to become a zombie after death – but it doesn't kill you. If you're murdered by zombies, there isn't much difference, but if you contract the zombie flu and survive, then later die by *other* means, you'll still come back, ready to eat brains!

WEAPONIZED VIRUSES

Many of the *Sample Diseases* (pp. 14-15) are artificial and thus technically are biological weapons. However, the versions listed there are what one might encounter in the wild,

long after their creators unleashed them. A fresh weaponized virus, straight out of the can, is an aerosol. It can be fired from a handheld sprayer (using **Liquid Projector (Sprayer);** holds 20 shots, each of which can target one person), launched as a chemical grenade (fills an eight-yard radius), or kept in pressurized tanks to fill a room. After being sprayed, it will stick around for 60/(wind speed in mph) seconds, maximum one minute. Anyone standing in the cloud must make a contagion roll afterward, at -1 for every full 10 seconds of exposure.

As with chemical weapons (p. 10), biological weapons are potentially *very* dangerous; the GM should be careful when using them in a situation where the PCs can get their hands on them. If that does happen, a roll against **Hazardous Materials (Biological)** is required *every* time the weapon is used, transferred between containers, etc., to avoid infection.

GANGS

When nations collapsed, law and order were the first things to go out the window. While some folks still maintain a standard of decency, quite a few have given up on any pretense of humanity. They live by raiding and stealing from others, killing anyone who gets in their way. The worst of them murder, rape, and torture innocents just for kicks.

Because gang members are just human (minus the humanity), they are a very common threat; wasteland travelers can expect to deal with them often. Anyone being confronted by a gang may make a **Diplomacy** roll, or obtain a Good or better reaction, to convince them to talk for a moment instead of just attacking – though see *Attitude* (p. 16). A **Psychology** roll (at -4 unless you're able to converse freely with a member) can be used to figure out what they *really* want or need, while a successful **Tactics** roll lets you predict how they'll attack if they turn hostile.

ENCOUNTERING GANGS

Gang members are more confident in numbers. Reaction rolls for potential combat and Influence rolls used against the gang are at -1 if they outnumber their "prey" by a 5:1 ratio, at -2 for 10:1, -3 for 15:1, and so on.

Raiding Parties

Larger gangs often send out parties of just four to nine raiders; the GM can roll 1d+3 to determine this randomly, but it's often better to choose a size that should challenge the PCs. Such a raiding party can quickly scavenge through a large ruin, hold their own against most wasteland threats, and intimidate a small village of noncombatants. This kind of threat makes a good "wandering monster" for almost any location or situation; any reason the heroes have for being somewhere makes just as much sense for the raiders!

Unless the gang has an excess of vehicles (see *Motorized Gangs,* pp. 15-17), the raiding party will be on foot. They will be armed and looking for trouble; any attempt to sneak by or up on them will require a Quick Contest of **Stealth** against the gang's average Hearing or Vision. While raiders are not

explicitly looking for trouble, they will attack strangers unless the fight looks *very* one-sided. Even armed and dangerous PCs are at risk; the same gear that makes them look like a threat *also* makes them such a tempting target!

Some gangs are so small that the entire "organization" is less than a dozen members. Such a gang can be treated as a large raiding party, except that the boss will be present.

> ### Slavers
> Some evil gangs don't just raid towns for supplies – they raid for *people.* A healthy slave is worth between $4,000 and $6,000, depending on physical attributes. A weak or sickly one may fetch 10-20% of that. A slaver camp is likely to have large holding pens. The slaves are underfed and poorly treated, but never to the point of crippling or death (except as punishment). Wastelanders losing a fight to slavers are likely to be captured instead of killed.

Motorized Gangs

Vehicles provide an edge in the wasteland; for some gangs, this becomes their whole reason for existing. They raid and pillage looking for fuel. They have enough vehicles that they can transport the entire gang, which makes them very hard to catch; if things get bad enough, or once they've bled a place dry, they simply move on to the next destination.

A motorized gang will often send out raiding parties (above) in a car, or on a couple of motorcycles. Instead of a classic encampment (p. 16), they'll circle their vehicles, using them as cover *and* shelter. They're always on the lookout for new vehicles. Anyone driving a single transport through the wasteland needs to avoid attracting their attention, lest the *entire* gang intercept and take it.

Masters of the Land

Gangs that live in areas with unusual ecology often learn to take advantage of it. For example, gangs that live in the desert may be adept at hiding under sand-covered tarps.

Gangs in forests may rappel downward from the branches to take travelers by surprise. Those in a radioactive wasteland may send out parties wearing radiation suits to funnel victims into a nearby crater, where the RP loss will weaken or kill them. When creating a gang based in a fixed location, the GM should contemplate any way the members could make advantageous use of the local terrain or features. (See the lens on p. 17 for skill suggestions.)

Encampments

The most dangerous encounter with a gang is on its home turf. A large gang will often claim a building and its surrounding area, adding walls and cover along the perimeter for defense (much like a medieval fort). The stronger the building, the more defensible it will be; gangs particularly prize banks, National Guard outposts, and police stations.

A typical encampment for a medium-sized gang (25-50 members) will be based out of a freestanding home or business (such as a gas station or convenience store), with a 4' to 6' improvised wall erected around the parking lot. For a large gang (about 75-100 members), the encampment will take up about a city block. It will have a large building (anything from a standalone fire station to a full strip mall) at the center, and a 6' to 12' wall – built from chainlink fencing, highway signs, billboards, and barbed wire (-1 to Climbing) – along its outer edge.

The outer wall will have at least one opening, and larger encampments may have two to four. All will be under constant guard; sneaking by requires winning a Quick Contest of **Stealth** vs. the guard's Vision at +10 (or *+14* if he has a reason to be suspicious)! Or infiltrators can go through the outer wall; see *Fences* (p. 33) for details. Once inside, intruders must *win* a Quick Contest of **Stealth** vs. the gangers' best Hearing or Vision to remain undetected; roll once per group of members who might detect the PCs.

The outer "courtyard" will often have elevated platforms for sentries (built from scrounged materials), tables and chairs, and enough bonfires to ensure that the darkness penalty ranges from 0 to -3 at night. About half the gangers will be outside, a quarter (including the boss) will be in the building, and another quarter will be away on raiding parties (p. 15). Any important valuables or hostages will be kept in the building. For more on penetrating buildings, see *Ruins and Bunkers* (pp. 32-36); the quality of the building can vary *greatly,* from a ramshackle wooden house with little structural integrity to a reinforced armory with thick concrete walls.

ATTITUDE

The road from "decent human being" to "outright monster" is a long one, and not all gangs are the same. For simplicity, here are some lenses the GM can apply when deciding just how debauched and horrific a given gang is. The modifier in parentheses is applied to the gang's reaction rolls *and* to any attempt to interact with the gang as normal folks (e.g., Diplomacy or offering a trade).

Desperate (-1): They rob and steal because it's the only thing they know. They won't torture or rape, and they kill only when necessary. No changes to traits.

Nihilistic (-2): They just don't care; it's everyone for himself, and others are meant to be used. They rarely torture, but will kill if given the slightest provocation. Add Bad Temper (12) and Bloodlust (15).

Debauched (-4): They enjoy terrifying others and feed on the rush of power from hurting folks. Torture is common, and they'll always kill unless they have a clear reason *not* to. Add Bad Temper (9) and Bloodlust (9).

Monstrous (-6): They've gone around the bend to pure evil. They'll actively seek out victims to torture and kill (*usually* in that order). Add Bad Temper (6), Bloodlust (9), and Sadism (9).

Cultish (+2/-6): They believe that *everyone* useful or talented should be part of their gang. They initially react at +2; a Good or better reaction (e.g., from successful use of **Diplomacy**) will garner an invitation to join the gang, while Neutral or worse means they see you as prey. If their offer is declined, reroll their reaction, but at -6! Add Fanaticism (Gang), Obsession (Recruit everyone who's worthy) (6), and Stubbornness. For a detailed example of such a gang, see "The Redeemers" in *Pyramid #3/88: The End Is Nigh.*
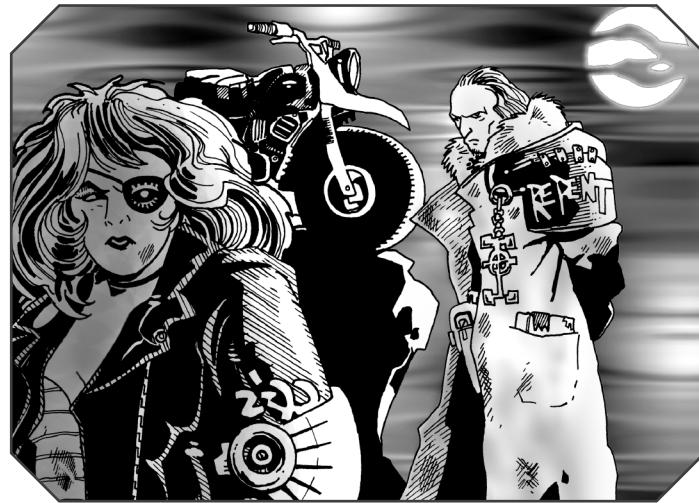
IDENTITY

From a roleplaying perspective, the best gangs are the *interesting* ones. Desperate to make an identity for themselves, gangs will adopt flamboyant outfits, face paint, or mannerisms. This has as much to do with intimidation as anything; a group of gang members in leather armor is worrisome, but a group of angry clowns carrying fluorescent-green chains is downright *terrifying.* It also acts as an unofficial uniform, making it harder for an outsider to infiltrate the gang (*Fitting In,* p. 48).

The more depraved a gang is (*Attitude,* above), the more likely they are to take on a bizarre persona. This can help the PCs know what they're dealing with – a gang that looks and acts fairly normal may be up for negotiation, while one that covers themselves in stitched-together baby limbs and punctuates each sentence with a wolf howl should be killed or evaded at all costs.

SAMPLE GANG MEMBERS

Gangers range from new recruits to dangerously skilled veterans. The GM shouldn't hesitate to interpolate new "experience levels" that fall between the following three options, or to beef them *all* up once the PCs start getting comfortable.

For all, the specific traits are *examples* – not every gang boss is Ambidextrous and trained in Broadsword! The GM should adjust important gang members to keep the players on their toes.

In all cases, the weapons listed are *options* that depend on which skills the gang member has. For example, a raider will have Axe/Mace *or* Kusari, so he will use *either* a nail-board or a chain, not both. Nonimprovised weapons include their value as loot.

Raider

ST 11; **DX** 10; **IQ** 9; **HT** 10.
Damage 1d-1/1d+1; BL 24 lbs.; HP 11; Will 11; Per 11; FP 10; RP 10.
Basic Speed 5.00; Basic Move 5; Dodge 8; Parry 8 (Axe/Mace) or 6 (Kusari).
SM 0; 5′7″ to 6′2″; 120 to 180 lbs.

Advantages/Disadvantages: Callous; Improvised Weapons (Axe/Mace *or* Kusari).
Skills: Brawling-12; Guns (Pistol)-12; Intimidation-12; *either* Axe/Mace-12 *or* Kusari-11; *either* Scrounging-12 *or* Survival (local terrain)-11.

Notable Equipment
- *Armor:* Improvised leather, DR 1.
- *Chain:* 1d+2 cr; Reach 1-4*. May entangle as per *Lariats* (p. B411), at -4. Parried at -4; if parried, may *immediately* roll skill to entangle the weapon or limb.
- *Cheap Derringer, .41:* 1d pi+; Acc 0, Range 80/650, RoF 1, Shots 2(3i), Bulk -1, Rcl 2, Malf. 17, $80.
- *Nail-Board:* 1d-1 imp; Reach 1; may get stuck (p. B405).

O.G.

ST 13; **DX** 12; **IQ** 11; **HT** 12.
Damage 1d/2d-1; BL 34 lbs.; HP 13; Will 13; Per 12; FP 12; RP 12.
Basic Speed 6.00; Basic Move 6; Dodge 10; Parry 10 (Axe/Mace) or 9 (Kusari).
SM 0; 5′7″ to 6′2″; 120 to 180 lbs.

Advantages/Disadvantages: Callous; Combat Reflexes; DR 1 (Tough Skin); Improvised Weapons (Axe/Mace *or* Kusari).
Skills: Brawling-14; Guns (Pistol)-14; Intimidation-14; Leadership-11; Scrounging-12; Survival (Local terrain)-11; Tactics-11; *either* Axe/Mace-15 *or* Kusari-14.

Notable Equipment
- *Armor:* Damaged Leather or Improvised Scale, DR 2.
- *Chain:* 2d cr; Reach 1-4*. See notes for *Raider* (above).
- *Cheap Revolver, .36:* 2d-1 pi; Acc 0, Range 120/1,300, RoF 1, Shots 6(3i), Bulk -2, Rcl 2, Malf. 17, $120.
- *Nail-Board:* 2d-3 imp; Reach 1; may get stuck (p. B405).

Boss

ST 15; **DX** 15; **IQ** 14; **HT** 13.
Damage 1d+1/2d+1; BL 45 lbs.; HP 18; Will 16; Per 16; FP 13; RP 14.
Basic Speed 7.00; Basic Move 7; Dodge 11; Parry 12 (Broadsword).
SM 0; 5′7″ to 6′2″; 120 to 180 lbs.

HOSTILE TOWNIES

Gangs (pp. 15-17) and paramilitaries (pp. 23-24) are not the only human dangers in the wasteland. Many settlements are distrustful of outsiders; this "get off my land" mentality is especially likely if the settlement was originally founded by survivalists. Wastelanders approaching such a town will *usually* be given an unmistakable warning, from a painted sign to a warning shot, rather than being attacked on sight. Any attempt to deal with the townies via social skills will be at -4 or worse.

Alternatively, some settlements are warm and welcoming to strangers . . only to stab them in the back and split the loot once they've let their guard down. Successful use of **Body Language, Danger Sense,** or **Empathy** can provide a warning ahead of time, as can **Detect Lies** *if* someone thinks to ask the right questions. The PCs will be given separate rooms to sleep in, then attacked while unconscious and vulnerable.

Use the *Sample Gang Members* statistics for hostile townies, tweaking the mental disadvantages to fit the situation (e.g., adding Intolerance, Paranoia, or Xenophobia).

Advantages/Disadvantages: Ambidexterity; Callous; Charisma 2; Combat Reflexes; DR 2 (Tough Skin); High Pain Threshold; Reputation +4 (Gang).
Skills: Brawling-17; Broadsword-16; Guns (Pistol, Shotgun, *or* SMG)-17; Intimidation-16; Leadership-16; Scrounging-16; Survival (Local terrain)-16; Tactics-14.

Notable Equipment
- *Armor:* Improvised steel plate and/or mail, DR 4.
- *Auto Shotgun, 12G:* 1d+1 pi; Acc 3, Range 50/125, RoF 3×9, Shots 6+1(3), Bulk -5, Rcl 1, $7,600.
- *Cavalry Saber:* 2d+2 cut or 1d+2 imp; Reach 1, $500.
- *Cheap Machine Pistol, 9mm ×2*:* Each 2d+2 pi; Acc 1, Range 160/1,900, RoF 20, Shots 25+1(3), Bulk -3, Rcl 3, Malf. 17, $2,880. Can fire both simultaneously at -4.
- *Cheap Revolver, .44M ×2*:* Each 3d pi+; Acc 1, Range 200/2,500, RoF 3, Shots 6(3i), Bulk -3, Rcl 4, Malf. 17, $2,880. Can fire both simultaneously at -4.

* May have one good-quality machine pistol or revolver instead of two cheap ones: Acc 2, no Malf., $7,200.

Lenses

Master of the Land: For a wilderness gang, add Survival for local terrain *and* any nearby terrain at Per+2 (or raise existing Survival to that level), Camouflage at IQ+2, and Naturalist at IQ. For a city gang, add Urban Survival at Per+3, Survival for local terrain at Per+2, and Stealth at DX+2. For either, add any skills needed to take advantage of the area at DX+1 or IQ+1, and assume techniques were learned to buy off penalties (e.g., gangs who rappel from trees know Climbing at DX+1 *and* have bought off the penalty for roping down).

Motorized Ganger: Add one specialty of Driving at DX+1, Navigation (Land) at IQ, and Mechanic (same vehicle specialty) at IQ. Dedicated drivers or mechanics also add two additional specialties *and* +1 to skill with all three. Dedicated navigators also add Absolute Direction, which gives +3 to skill.

MUTANTS

Whether you think of them as the next stage of a species' development or evolution gone *horribly* wrong, mutated humans, animals, and plants are a *very* common theme in post-apocalyptic gaming. The GM may be selective in their use; e.g., he can use mutated plants and animals without necessarily declaring that mutated humans exist. In all cases, these rules apply equally to mutated people, animals, or plants unless specified otherwise; the term "mutant" describes all three. While animals and plants do not use the mutation packages from *Wastelanders,* they *do* have a Freakishness rating, for use with these rules.

Though modern games and fiction have popularized the link between radiation and mutation, you don't need nukes to justify mutants – there are *many* possible sources for them. Some diseases (see *Proteus Virus,* p. 23) possess the ability to rewrite a victim's DNA. Anything from space (whether energy-based or physical) may effect weird changes in organisms. Free-roaming nanotech can often rebuild living beings from scratch (*Gray Goo,* p. 22). Or a weak variant of the zombie flu (p. 15) may "only" cause mutations. For what happens when these "causes" are concentrated, see *Mutagen* (p. 11).

Finally, these may not even be true mutants, but the product of deliberate human (or, if they exist, *alien*) experimentation. This allows the GM to introduce any of the threats below without acknowledging the existence of mutants; just substitute "experimental" for "mutated" wherever it appears! Human experiments may even lack Freakishness; see *One of Us?* (below).

One of Us?

Chapter 3 of *Wastelanders* has guidelines for Freakishness, including minimum levels. However, the GM is always free to introduce special NPC mutants who either have *no* Freakishness or can hide it especially well. For example, having another person growing out of your chest is *very* freakish . . . but if the mutant can retract "him" fully, he could conceal it with a mere shirt. This option works especially well for experiments (see above), who may have been designed to be superhuman with few flaws. Be wary of using such "mutants" too often, however, as players of true mutants may become jealous of these NPCs who have all of the benefits with none of the drawbacks!

IDENTIFICATION

Anyone looking at a mutant (with Freakishness 1+) can roll to recognize it as such. This requires a roll against **Per** at -6 or a *Per*-based roll against **Biology** or **Expert Skill (Mutants).** For humans, you may substitute Per-based **Diagnosis** if better; for animals, Per-based **Veterinary;** and for plants, Per-based **Naturalist** (and also see *Mutated Plants,* p. 21). In all cases, subtract any range/speed penalties, but add the mutant's Freakishness/6 (round down).

Success identifies it as a mutant *and* reveals one specific mutation for every three full points of success; critical success reveals all mutations *and* side effects. Failure means you cannot tell, while critical failure causes an embarrassing or dangerous misunderstanding.

If you're able to sit down for an hour and examine the mutant (which generally requires it to be either willing or dead), use the same rules, but the roll is *IQ*-based and at +6.

TREATMENT

Many mutated humans would gladly go back to being normal if it were possible. In theory, a brilliant scientist could *try* to create a cure. Treat this as an invention (pp. 40-41) which is unique for *each* mutant. A cure for *one* of the subject's mutations has a $1,000,000 value; a cure for all of them has a $5,000,000 one.

The only way to cure a *side effect* is to remove mutations until the mutant's Freakishness drops below the threshold at which the side effect was added. If the order in which the side effects were added is unknown, roll 1d for each (rerolling ties) – assume that the one with the lowest roll appeared at Freakishness 15, the next lowest at Freakishness 30, and so on.

This assumes a present (and willing or restrained) participant, as the process will require regular testing, blood samples, etc. If the subject lets you do a full lab work-up and leaves blood samples, but can't be present for the process, all rolls are at -4. Trying to work from a blood sample (only) gives -10.

NOT QUITE HUMAN

Mutated humans are people, too. Because of this, the GM may want to build them using a template from *Wastelanders* (with the mutated lens) instead of using the simplified statistics below. One compromise is to work up a full character sheet for boss and friendly mutants, leaving the others as simple cannon fodder.

Because these are sapient beings, *all* of the advice under *Gangs* (pp. 15-17) applies, particularly *Attitude* (p. 16). Even more so than lawless humans, mutants are likely to see themselves as monsters. For some mutants, this bestial mindset goes beyond mere attitude, as their bodies grow in strength at the expense of their higher brain functions. To represent this, reduce IQ (but not Will or Per) by any amount while increasing ST by the same amount. These near-mindless foes can be dangerously unpredictable!

The samples below are only baselines – the GM has to take the important step of choosing mutations. Several ready-to-use mutation packages are provided; the GM should also come up with his own combinations. Remember that one minor deformity is required for every six full levels of Freakishness; interesting physical oddities make for memorable mutant descriptions!

Standard Mutant

Start with one of the gang members on p. 17, then add approximately 50 points of mutations – either a mutation package (p. 19) or chosen freeform from Chapter 3 of *Wastelanders.*

Mutation Packages

Centaur: Fast-Twitch Legs 1; Rubber Neck; Trampler. Freakishness 11.

Evolved Lungs: Bellow Lungs; Boosted Hemoglobin; Flesh Pocket; Redundant Organs; Sound-Wave Recall. Innate Attack (Breath) at DX+2. Freakishness 11.

False Angel: Basic Move -1*; Starfish Genes; Winged Flight 1. Freakishness 15.

Light Bulb: Natural Anti-Rad 1†; Nuclear Core; Unnatural Hardiness. Freakishness 11.

Melee Fighter: Bone Spur; Resilient Brain; Super-Strength 1; Thick Hide 1. Freakishness 10.

Scout: Adaptable Skin 1; Eagle Eyes 1; Hound Nose 1; Red Sight; Slimy. Freakishness 12.

Strange Biochemistry: Acidic Blood; Natural Anti-Rad 1†; Self-Restoration 1. Freakishness 10.

* A side effect, due to the high Freakishness.

† If disease is more prevalent than radiation in the setting, replace the RP +10 from this mutation with Immunity to Disease.

Tough Mutant

As for a standard mutant, but with +2 ST, +2 HT, and Thick Hide 1 (which gives +3 Freakishness). For the melee fighter package, raise Thick Hide to 2 and Freakishness to 12 instead. For the scout package, also add Unusual Biochemistry as a side effect.

Super Mutant

ST: 20	**HP:** 20	**Speed:** 7.00
DX: 14	**Will:** 13	**Move:** 8
IQ: 10	**Per:** 12	**Weight:** 300 lbs.
HT: 14	**FP:** 14	**SM:** +1
Dodge: 11	**Parry:** 11	**DR:** 5 (see Notes)

Cheap Double Shotgun, 10G (16): 1d+2 piercing; Acc 2, Range 50/125, RoF 2×9, Shots 2(3i), Bulk -5, Rcl 1, Malf. 17, $360. May be used (but not reloaded) one-handed.

Kick (14): 2d+1 crushing; Reach 1.

Punch (16): 2d crushing; Reach C, 1.

Sledgehammer (15): 3d+6 crushing; Reach 1, 2*. Does *not* become unready after attacking (due to high ST) unless used one-handed.

Traits: Ambidexterity; Combat Reflexes; High Pain Threshold; Improvised Weapons (Two-Handed Axe/Mace). Choose *two* mutation packages from under *Standard Mutant* (above); this may require a roll on the *Side Effects Table* (**Wastelanders,** p. 25).

Skills: Brawling-16; Guns (Shotgun)-16; Intimidation-14; Scrounging-12; Survival (Local terrain)-12; Two-Handed Axe/Mace-15.

Notes: RP 17. DR is a mix of inherent DR 2 (Tough Skin) and improvised armor (DR 3).

Colossus

The product of a *very* rare mutation, this 15'-tall behemoth is one of the most feared sights in the wasteland. He finds human-scale weapons almost impossible to use, but is deadly with improvised ones. The mutations are an *example* and should be rearranged for each colossus, though the GM may wish to retain Redundant Organs and Thick Hide; the former gives the mutant excellent protection from bullets (see p. B380).

ST: 30	**HP:** 30	**Speed:** 7.00
DX: 12	**Will:** 16	**Move:** 9
IQ: 9	**Per:** 13	**Weight:** 600 lbs.
HT: 16	**FP:** 16	**SM:** +2
Dodge: 11	**Parry:** 10	**DR:** 12

Kick (12): 3d+3 crushing; Reach C-2.

Mighty Roar (14): Victim must make a HT roll or be stunned; Range 10. Costs 1 FP.

Punch (14): 3d+2 crushing; Reach C, 1.

Rebar and Concrete (13): 5d+7 crushing; Reach 2-4*. Does *not* become unready after attacking (due to high ST) unless used one-handed.

Thrown Rock (13): 3d+3 crushing; Acc 0, Range 21. Weighs 95-135 lbs. Takes one second to pick up, another to throw.

Traits: Combat Reflexes; DR 2 (Tough Skin); High Pain Threshold; Improvised Weapons (Polearm).

Mutations: Ham-Fisted 1; Hound Nose 1; Mighty Roar; Natural Anti-Rad 3; Red Sight; Redundant Organs; Thick Hide 3; Unnatural Hardiness.

Skills: Brawling-14; Innate Attack (Breath)-14; Intimidation-20; Polearm-13; Scrounging-13; Survival (Local terrain)-12; Throwing-13.

Notes: RP 43; Freakishness 27.

> *Here, take a few radiation chems, as my little way of saying "I'm sorry I twisted your DNA like a kitten with a ball of yarn."*
>
> *– Moira Brown,*
> *in* **Fallout 3**

MUTATED ANIMALS

Non-humans don't use the *Wastelanders* mutations; instead, any special abilities are included in the animal's description, statistics, and attacks. **Animal Handling** rolls are at -5 against a mutated animal; **Animal Empathy** removes this penalty *and* allows Influence rolls to be attempted.

Bombardier

This giant (4'-long) beetle defends itself by spraying a blast of toxic chemicals at its foes; this comes from a special organ that may be aimed in any direction (at -2 for rear hexes or -6 for directly behind). The FP cost is a simple way to represent that these toxins are limited but automatically recharge over time. The bombardier will flee if it ever falls to 4 FP or less.

With minor changes, these statistics can also be used to represent giant ants, dire roaches, and so on.

ST: 8	**HP:** 10	**Speed:** 6.00
DX: 12	**Will:** 13	**Move:** 6
IQ: 2	**Per:** 12	**Weight:** 70 lbs.
HT: 12	**FP:** 12	**SM:** -1
Dodge: 9	**Parry:** N/A	**DR:** 3

Blast (15): 2d corrosion; Range 10/20 (jet; does not take range penalties). Costs 1 FP. Often targets the face at -5: 1.5× wounding modifier and a major wound blinds one eye (*both* eyes if damage exceeds HP).
Mandibles (14): 1d-3 crushing; Reach C.

ALIENS

Aliens usually work best behind the scenes in a post-apocalyptic game. Alien technology can be the explanation for *any* of the weird hazards in this chapter: Diseases or toxins may be a byproduct of their spaceships' exhaust, mutants may be experiment victims, and so on.

Still, in some games, it's appropriate to have direct alien encounters. Use the following statistics for a typical extraterrestrial worker or scientist; alien warriors may be much tougher. If aliens will feature heavily in the game, consider stealing the races from *GURPS Monster Hunters 5: Applied Xenology*.

Grey

This large-headed alien stands about 5' tall, with huge black eyes, no nose, and a toothless mouth completely hidden by a flap of skin. (It digests food in the mouth, using acid glands.) Its telepathy is not universal, which means it can only communicate with humans via images and emotions. In addition to the attacks below, it will usually have access to high-tech weaponry such as lasers or blasters. These weapons all have biometric *and* DNA locks, making them useful to most wastelanders only as parts (p. 39).

ST: 9	**HP:** 9	**Speed:** 7.00
DX: 13	**Will:** 16	**Move:** 7
IQ: 16	**Per:** 16	**Weight:** 100 lbs.
HT: 13	**FP:** 13	**SM:** 0
Dodge: 10	**Parry:** 9	**DR:** 15/5 (see Notes)

Acidic "Bite" (13): 1d-1 corrosion damage; Reach C.
Telepathic Shout (16): *Two* Quick Contests of Will with the victim. Winning the first inflicts injury equal to the margin of victory. Winning the second stuns the victim, who may roll vs. Will every second to recover. DR does not protect but standard range penalties apply.

Traits: Hard to Kill 2; High Pain Threshold; Mind Reading (Sensory); Regeneration (Regular); Resistant to Metabolic Hazards (+8); Telesend (Video); Unusual Biochemistry.
Skills: Beam Weapons (Pistol or Rifle)-15.
Notes: Wears a bonded bioplas suit (DR 15 vs. piercing or burning, DR 5 vs. everything else) that disintegrates if removed or the grey dies.

Traits: Doesn't Breathe (Oxygen Storage, ×50); Quadruped (with six legs instead of four); Resistant to Metabolic Hazards (+8); Vibration Sense (Air); Wild Animal.
Skills: Brawling-14; Innate Attack (Breath)-15;
Notes: RP 10; Freakishness 10.

Killigator

A vicious, terrifyingly *cunning* predator that inhabits fresh water but can also be found on land (and even in cold climates). Treat it as IQ 3 for anything involving higher brain functions. If it bites someone SM +1 or smaller, treat it as a two-handed grapple; on subsequent turns, it can *worry* for full biting damage (no roll needed) *or* attempt a Quick Contest of ST to pull the victim underwater!

ST: 19	**HP:** 19	**Speed:** 6.00
DX: 12	**Will:** 13	**Move:** 7
IQ: 7	**Per:** 12	**Weight:** 800 lbs.
HT: 12	**FP:** 12	**SM:** +2
Dodge: 10	**Parry:** N/A	**DR:** 6 (see Notes)

Bite (14): 2d cutting; Reach C, 1.
Tail Whip (12): 2d+1 crushing; Reach C-2.

Traits: Amphibious; Breath Holding 4; Combat Reflexes; Danger Sense; Nictitating Membrane 2; Quadruped; Vibration Sense (Water); Wild Animal.
Skills: Brawling-14; Stealth-12; Tactics-7.
Notes: RP 15; Freakishness 5. Vitals have DR 2 from the front (stomach), but are usually inaccessible.

Ratdog

Named ambiguously because nobody's really sure just *what* it's a mutated form of, this beast resembles a large dog with a rat's face and tail. Its eyes *literally* glow in the dark, allowing it to see in even pitch blackness. It is frequently a carrier of disease (pp. 13-15).

One ratdog is not a serious danger, but they always travel in packs – typically of 7-20, but sometimes more. To determine this randomly, roll 3d+3. If you roll triples, add *another* 3d ratdogs. If *that* roll is triples, add *another* 3d, and so on. If the ratdogs vastly outnumber the PCs, the GM may wish to use the *Horde Combat* (p. 29) rules; if so, their major wound threshold is 5.

ST: 9	**HP:** 9	**Speed:** 6.00
DX: 12	**Will:** 11	**Move:** 6
IQ: 4	**Per:** 11	**Weight:** 100 lbs.
HT: 12	**FP:** 12	**SM:** 0
Dodge: 9	**Parry:** N/A	**DR:** 1

Bite (12): 1d-3 cutting; Reach C.
Claw (12): 1d-2 crushing; Reach C.

Traits: Dark Vision; Fur; Quadruped; Resistant to Metabolic Hazards (+3); Wild Animal.
Notes: RP 11; Freakishness 10.

Teddy

This gangly, wire-haired monster hardly resembles the bears from which it mutated.

It is *highly* aggressive, racing to attack anyone who invades its territory. Invaders have a *slight* edge if they catch it napping or just waking up, but not nearly enough to offset its speed and ferocity.

ST: 21   **HP:** 21   **Speed:** 7.00
DX: 14   **Will:** 13   **Move:** 8
IQ: 4   **Per:** 12   **Weight:** 300 lbs.
HT: 14   **FP:** 14   **SM:** +1

Dodge: 11   **Parry:** N/A   **DR:** 3

Claw or Bite (16): 2d+1 cutting; Reach C, 1.

Traits: Bad Temper (6); Berserk (15); Combat Reflexes; Enhanced Move 1 (Ground Speed 16; Costs Fatigue, 1 FP); Fur; No Fine Manipulators; Semi-Upright; Sleepy (12 hours/day); Slow Riser; Wild Animal.
Skills: Brawling-16; Running-15.
Notes: RP 17; Freakishness 12.

MUTATED PLANTS

Anyone with **Plant Empathy** gets +6 to his roll to identify (p. 18) mutant vegetation; if the GM would normally not allow a roll, he gets one anyway, but without the bonus. No common mutated vegetation is intelligent enough for Influence rolls, but even when dealing with a nonsentient plant, he may roll against the better of **Naturalist** or **Tactics** to predict who and how it will attack.

Spore Bomber

This large, bulbous plant resembles a smooth-skinned artichoke, if it were stuck into the ground stem-down. It has a rudimentary ability to sense nearby movement; make a Per roll, applying separate bonuses for the invader's size and speed, and a penalty for range, from the *Size and Speed/Range Table* (p. B550). (For a typical walking human, just make a Per roll, applying any range penalty; a *running* human gives +2.)

If it detects someone, it releases dozens of small, lighter-than-air "bombs" – mucus sacs filled with gas and spores. These drift quickly through the air; *everyone* nearby is vulnerable! Roll against a target number of 10 for each person; apply the person's SM *and* the range penalty between him and the plant. If successful, one "bomb" hits, plus another for every three full points of success. The only defense is to dodge.

ST: 0   **HP:** 15   **Speed:** 0.00
DX: 0   **Will:** 0   **Move:** 0
IQ: 0   **Per:** 10   **Weight:** 120 lbs.
HT: 13   **FP:** 13   **SM:** 0

Dodge: N/A   **Parry:** N/A   **DR:** 1

Spore Bombs (10): 1d+1 toxic; contact agent. See text for details.

Traits: Blindness; Deafness; Doesn't Breathe (Breathes carbon dioxide); Doesn't Sleep; High Pain Threshold; Injury Tolerance (Homogenous); No Legs (Sessile); No Manipulators; No Sense of Smell/Taste; Reduced Consumption (Special; Requires modest sunlight and water); Vibration Sense (Air).
Notes: RP 14; Freakishness 4.

Venus Guy-Trap

This is actually a *class* of mutated plants, all of which have adapted to hide as a different type of plant. Some look like small trees, some like vines, and so on. The plant has sensory clusters embedded along its length, giving it the rudimentary ability to see. When a target comes within reach, the plant lashes out with several "mouths," each the size of a football. If the victim has not noticed the trap, he gets no defense against the first attack! Once the victim is dead, the trap digests his flesh and absorbs the nutrients from the blood spilled onto the ground.

ST: 16   **HP:** 16   **Speed:** 6.00
DX: 10   **Will:** 0   **Move:** 0
IQ: 0   **Per:** 8   **Weight:** 200 lbs.
HT: 14   **FP:** 14   **SM:** +1

Dodge: N/A   **Parry:** N/A   **DR:** 3

Bite (12): 1d+1 cutting; Reach C-5. May attack with five mouths simultaneously.

Traits: Bad Sight (Nearsighted); Colorblindness; Deafness; Dependency (Sunlight; Weekly); Doesn't Breathe (Breathes carbon dioxide); Doesn't Sleep; Extra Attack 4; Extra Mouth 4; High Pain Threshold; Injury Tolerance (Homogenous); No Legs (Sessile); No Manipulators; No Sense of Smell/Taste; Stretching 4.
Skills: Brawling-12; Disguise-12.
Notes: RP 15; Freakishness 4.

NANOTECH

Nanobots are microscopic robots. They may be alien or human technology, but never occur naturally. Because they are robots, they are fully controllable . . . in theory. By now, it's almost certain that their programming has long since adapted beyond these controls or that there's no one left alive who knows the codes.

Roll against **IQ** at -8 or **Expert Skill (Robotics)** to answer questions about nanotech. If better, you may substitute **Mechanic (Robotics)** at -3 for hardware questions or **Computer Programming** at -2 for software ones. Nanobots cannot be reprogrammed (p. 26) directly, as they have no "hands-on" interface, but if they're still under the control of a nearby computer (a rare occurrence), *it* can be hacked (p. 42).

Most nanotech is encountered as a *cloud* of nanobots suspended in the air or as a liquid-like *pool* on the ground. Either ranges in size from a few yards to *hundreds* of yards across, and may be stationary (and thus a threat only for those who walk into it) or mobile. To determine Move randomly, roll 1d:

1 – Move 0. A cloud will stay fixed in place even if a strong wind is blowing.

2-3 – Move 0, but a cloud will drift with the wind.

4-6 – Move 1+. Roll 1d to determine Move. If you roll a 6, add another 1d to Move; if *that* die is a 6, roll another one, and so on, until you stop rolling sixes.

Use **Vision** minus range penalties to spot nanotech; it never gets the "in plain sight" bonus. For a pool *only,* add its SM (clouds are too diffuse). Even if the party overlooks the nanobots, a *Per*-based **Expert Skill (Robotics)** roll can spot subtle clues that nano is active in an area – partially dissolved trees, altered grass, etc.

Clouds of nanotech can be harmed only by area-effect attacks, including explosions. Don't worry about HP or DR; any area targeted by at least 1 point of damage will wipe out the nanobots there. The denser *pools* have Injury Tolerance (Diffuse) (see p. B380 for effects) and DR 0; each square yard takes 40 HP to destroy.

DISASSEMBLER NANO

One of the most terrifying applications of nanotech is that of pure destruction. The nanobots collectively take apart anything in the area – or sometimes just a subset, such as "living creatures," "metal," or "anything electronic" – molecule by molecule. A properly maintained disassembler swarm does 1d-2(10) corrosion damage *per second* for a total of 30 seconds, and only sealed armor protects against it! Fortunately for wastelanders, most nanotech is in a poor state at this point. Instead of doing the listed damage per second, it may do it per 30 seconds, per 1d minutes, or longer – still for a total of 30 cycles. Even this degraded version is a highly dangerous threat, just not an *instant* killer. However, once nanobots get onto a victim, there is no easy way to remove them prematurely; leaving the area doesn't convince the bots to let go and stop disassembling! They must be destroyed or coaxed.

Destroying the specific nanobots attached to the victim requires an area-effect or large-area (p. B400) burning or corrosion attack; in essence, you must burn the bots off of him,

doing *full* damage to the poor host. Most such nanoswarms will die after taking 5 points of damage. Coaxing them off is less painful, but harder. By attaching a computer to any device that can produce a radio frequency, a **Computer Programming** roll can find the signal that convinces the bots their target is fully dissolved; this takes five minutes, modified by *Time Spent* (p. B346). Without a computer, a radio-based device can be tweaked to send out a similar code, but this uses the *Simple Modifications* (p. 41) rules (ignore the need for parts).

> *Terminator: T-X is designed for extreme combat, driven by a plasma reactor, and equipped with onboard weapons. Its arsenal includes nanotechnological transjectors.*
> John: Meaning?
> *Terminator: It can control other machines.*
>
> **– Terminator 3: Rise of the Machines**

Gray Goo

If nanobots are the primary reason for the apocalypse (see Chapter 1), it was probably "gray goo" – disassembler nano that uses the destroyed molecules to build *more* nano. And more. And more. Unlimited, uncontrolled gray goo will eventually convert the entire Earth, but if its creators included hard-coded limits – or if the nanotech glitched and began eating *itself* – its growth will eventually stop (or at least slow drastically).

The nanobots in gray goo have the ability to analyze any physical object (to properly take it apart) and to rebuild those objects into more nanobots. But sometimes, over the course of decades, glitches in this programming cause the goo to become "chaotic." Instead of building replacement nanobots, the bots start remembering and building random things that they previously destroyed. For example, if the goo disassembled a missile a year ago, it might take apart a car full of armed wastelanders today and turn the collective mass into a working missile! Raw material does matter; the nanobots cannot change atomic nuclei, only rearrange existing elements into new molecules and structures.

Chaotic goo gives the GM a reason to have strange landscapes full of impossible or uncommon objects, adding a touch of surrealism to the game. And it can provide a small silver lining – sure, the nanobots destroyed your arm and its armor, but at least they left behind a shiny new machine pistol! If mutants (pp. 18-21) exist, chaotic goo that targets organic beings may "rework" their bodies; treat this as ingesting a dose of mutagen (p. 11). In an *extremely* cinematic game, chaotic goo may even rebuild a person with a custom cybernetic arm or metallic armor skin!

NANOVIRUSES

Not all nanotech is programmed to disassemble things. A nanobot's size makes it a perfect high-tech replacement for a virus or bacterium. Tailored nanoviruses are the ultimate weaponized disease (p. 15). The GM can use one of the custom versions below *or* turn any sample disease (pp. 14-15) into a nanovirus with the following changes:

● The contagion is resisted at an extra -3. Don't add this to the examples below; they already take it into account!

● All rolls to diagnose or treat it are at -5 *unless* the physician or an aide knows **Expert Skill (Robotics)** or *both* **Computer Programming** and **Mechanic (Robotics).**

● Antibiotics and similar drugs have *no* effect.

Nanoburn

A nerve agent using a suspension of nanobots designed to shut down bodily functions. It is resisted at HT-6, with no delay. Failure immediately paralyzes the victim for three minutes times the margin of failure (maximum 30 minutes). While paralyzed, he takes 1d-1 toxic damage every three minutes.

Proteus Virus

A proteus nanovirus is an ultra-tech blood agent capable of radically rewriting the victim's DNA and stimulating the rapid growth of new cells to take advantage of it. It's resisted at HT-6 with a 1d×5 minute delay. If the initial HT rolls fails, the virus begins altering the subject over the next 3d days; during this time, he is uncomfortable and sweaty, but suffers no penalties.

The effect of the proteus virus is up to the GM, who must consider the designers' wishes when building it. The simplest approach is to treat it as mutagen (p. 11); in fact, this is the most believable way to add mutations to an existing character. But *any* combination of nonsupernatural advantages and disadvantages can be added, from a super-soldier virus that gives Enhanced Time Sense, High Pain Threshold, and Bloodlust (12), to a prisoner-controlling one that adds Killjoy and Slave Mentality. It's up to the GM whether the virus is stable enough to produce the same changes in every subject, or if it will vary from person to person. (From the GM's perspective, this can be a great way to "upgrade" the PCs if he wants to raise the power level of the game a bit.)

PARAMILITARIES

When someone wants to enforce his will on the wasteland, the best way to do so is with a personal army. A paramilitary is a disciplined organization of private soldiers or mercenaries, often led by a self-styled dictator (but see *Leadership,* below). Paramilitaries frequently have access to high-end equipment and resources; this makes them more of a threat than gangs (pp. 15-17), but more worth looting afterward!

MOTIVATION

Most paramilitaries have one of three origins, possibly reaching back to before the apocalypse. Those founded by *survivalists* tend to be insular and paranoid, sometimes taking on a cult-like demeanor. Some were originally *mercenary* companies; they tend to be the most amoral, willing to do anything if there's something in it for them. And a few spawned from the remains of legitimate *military or police forces.* Because the latter follow a strict chain of command (enforced with extra discipline, due to a constant state of martial law), their overall behavior will reflect their commander's personality.

A paramilitary *can* be a force for good; managed properly, a small army could make the local area a better place. But in a twisted and destroyed world, it's *very* hard for a martial organization to avoid slipping into an "us against them" mindset. Even the noblest group can crack when confined to one area, with no support and no one to trust, facing mutants, zombies, aliens, and other wasteland dangers. Thus, the following motivations are all especially dark – it should be *rare* to find a "truly good" paramilitary group.

Claim to Legitimacy: "We are the true government of this state/nation/world! Anyone who disagrees is a traitor; anyone who won't take sides is a potential threat."

Paranoia: "This is a dangerous world, and we need to band together for strength. You're either with us or against us – and if you say you're with us, you're probably lying."

Religion: "This is the One True Way. All has been revealed to us by our glorious leader. We are here to spread the One True Way to the wasteland; those who reject it are enemies of the flock."

Survival: "We just want to keep our people alive, well, and happy. That means we need the best land. And water. And other resources. If these belong to others, too bad; there isn't enough for everyone, so we have to put ourselves first."

Specific: The group has a particular goal or strategy, set by the GM. For example, they may be committed to eradicating every mutant in the state, to collecting every sample of plutonium that exists, or to napalming every village infected by a particular virus.

LEADERSHIP

Paramilitaries *require* leadership, by definition, though the specifics can vary. In order from most to least common:

One Person: One commander rules the group. He will almost certainly have underlings, lieutenants, etc., but the chain of command stops at his feet. He can rarely change things on a whim, however – his soldiers are people, not literal cogs, and may resist orders that run counter to the paramilitary's established motivation (p. 23).

Oligarchy: A small group (usually three to five people) runs things. This has benefits and drawbacks compared to a single leader: If one member is killed or deserts, there will be virtually no effect on the paramilitary as a whole, but the organization may hesitate when high-level decisions have to be made *quickly.*

Committee: Rarely, a paramilitary may be run by a cabinet of elected officers – usually a dozen or so, each in charge of a specific aspect of the organization. While this method is best for avoiding corruption, the "hesitation problem" that oligarchies face is even worse here. In practice, when things get *really* bad, one person needs to be temporarily given full authority to make decisions . . . and given a taste of that power, he'll often manipulate the situation to retain it, bringing things back to one-person leadership.

Ideal: Even *more* rarely, a paramilitary may uphold the values of a long-dead person or an ancient code, with *no* living person specifically in charge. This tends to work only as long as no situation comes up which isn't covered by the existing precepts; once someone has to start making decisions, it usually turns into an oligarchy (above). When used sparingly, it can make for a *very* surreal encounter for the PCs, who ask for the leader and are introduced to a 50-year-old, beat-up field manual or personal diary.


Paramilitary Rank

Per ***Wastelanders,*** Rank requires civilization, and thus does not normally exist in an ***After the End*** game. Paramilitaries are an exception; they use Paramilitary Rank [2/level] as the basis of their chain of command. Paramilitary Rank ranges from 0-4. It applies to every reaction roll made by a member of the same organization, but has *no* effect on reaction rolls from the general public *or* from other paramilitaries.

RESOURCES

The threat level of a paramilitary depends on two things:

Overall Size: Manpower matters. Out in the field, most paramilitary encounters will be with squads of four to six soldiers, regardless of the organization's overall size – but if the adventure calls for the PCs to deal with the paramilitary *as a whole,* the size defines how they'll have to approach the situation. A merc company of 6-10 members could be taken down in full by the PCs in a single adventure. A camp of 25-30 is too great a danger to attack head-on, but not an insurmountable foe. An Army base of 100+ soldiers is beyond the resources of almost *any* PC group to challenge; their choices are to negotiate and work with them, or settle for picking off squads.

Gear: The easiest way to compare apples to apples is to establish a budget at the *squad level,* where the soldiers are most comparable to the PCs. For example, a budget of $500 per soldier ("fair" in comparison to starting characters) means a five-person squad would share a total of $2,500 worth of equipment – enough for some cheap weapons and armor, but certainly no vehicles, high-tech guns, etc. To make them more of a challenge, the GM might set a budget of $2,000 per soldier (enough to ensure some nice guns and maybe a shared, low-end vehicle) or higher. A higher budget *significantly* increases the danger level of each squad, but also gives the PCs better gear to loot; see *Gear* (pp. 51-52) for more.
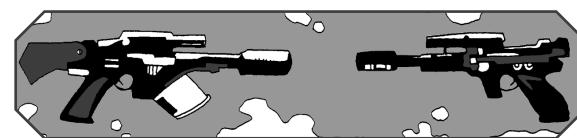
SAMPLE SOLDIERS

The statistics below omit details involving gear and attacks, as that will vary by necessity from organization to organization (*Resources,* above). A squad equipped with leather armor and TL6 pistols will be a *very* different threat from one with full body armor and TL8 assault carbines. The skills assume firearms; change Guns to Beam Weapons for ultra-tech forces. All traits are *examples;* the GM should make changes for variety, especially for commanders.

Private

ST 10; **DX** 11; **IQ** 10; **HT** 11.
Damage 1d-2/1d; BL 20 lbs.; HP 10; Will 11; Per 11; FP 11; RP 10.
Basic Speed 6.00; Basic Move 6; Dodge 9; Parry 9 (Brawling).
SM 0; 5'7" to 6'2"; 120 to 180 lbs.

Advantages/Disadvantages: Callous; Duty (Paramilitary; 15 or less); Fit; Paramilitary Rank 0 (above).
Skills: Brawling-13; Fast-Draw (Ammo)-12; First Aid-11; Guns (Rifle)-13; Guns (most others)-11; Hiking-12; Soldier-12; Wrestling-12.

Officer

ST 11; **DX** 12; **IQ** 12; **HT** 12.
Damage 1d-1/1d+1; BL 24 lbs.; HP 11; Will 12; Per 13; FP 12; RP 11.
Basic Speed 6.00; Basic Move 6; Dodge 10; Parry 11 (Brawling).
SM 0; 5'7" to 6'2"; 120 to 180 lbs.

Advantages/Disadvantages: Callous; Combat Reflexes; Duty (Paramilitary; 15 or less); Paramilitary Rank 2 (above); Penetrating Voice; Very Fit.
Skills: Brawling-14; Fast-Draw (Ammo, Pistol, *and* Long Arm)-14; First Aid-12; Guns (Rifle)-15; Guns (most others)-13; Hiking-13; Intimidation-12; Leadership-12; Soldier-13; Strategy (Land)-10; Tactics-13; Wrestling-13.

Commander

ST 13; **DX** 14; **IQ** 14; **HT** 14.
Damage 1d/2d-1; BL 34 lbs.; HP 15; Will 15; Per 15; FP 14; RP 13.
Basic Speed 7.00; Basic Move 7; Dodge 11; Parry 12 (Brawling).
SM 0; 5'7" to 6'2"; 120 to 180 lbs.

Advantages/Disadvantages: Ambidexterity; Callous; Charisma 3; Combat Reflexes; DR 2 (Tough Skin); Duty (Paramilitary; 15 or less); High Pain Threshold; Luck; Paramilitary Rank 4 (above); Penetrating Voice; Very Fit; Voice.
Skills: Brawling-16; Diplomacy-15; Fast-Draw (Ammo, Pistol, *and* Long Arm)-16; First Aid-15; Guns (Rifle)-17; Guns (most others)-15; Hiking-15; Intimidation-16; Leadership-16; Soldier-16; Strategy (Land)-16; Tactics-16; Wrestling-15.
Notes: This commander is cinematically tough, skilled, and personally competent, for games in which more highly ranked foes are supposed to be harder to defeat. For a more realistic commander, use the officer statistics but with IQ 13, Paramilitary Rank 4, Diplomacy-13, Leadership-14, Strategy (Land)-13, and Tactics-14.

Radiation

Radiation is an omnipresent threat in a bombed-out wasteland, but even a game without any nukes can have it come up as an occasional issue. Scavengers raiding an old building may think they've hit the jackpot, only to open up an old storage vault for radioactive waste! Be sure to see *Irradiated Heavy Metals* (p. 11), *Fallout Rain* (p. 13), *Fallout Sandstorms* (p. 13), and *Water* (p. 13) for related threats.

Wastelanders introduced simplified rules for radiation, which break everything down into RP loss over time. If you aren't using those rules, treat each "1 RP lost" as "10 rads absorbed." Either way, make a **Hazardous Materials (Radioactive)** or **Survival (Radioactive Wasteland)** roll to answer any questions about the type of area you're in and to estimate RP loss. **Hazardous Materials (Radioactive)** (only) can *also* determine how to neutralize the problem safely if possible (e.g., when dealing with a spilled isotope or leaking bomb) *and* warn you ahead of time if you're about to enter a nuclear reactor or waste site (use the rules for recognizing toxic waste dumps on p. 10).

When wearing an environment suit that has a Protection Factor (PF), multiply the time between RP losses by that PF. For example, an advanced biohazard suit (*New Gear,* p. 47) provides PF 2.5; someone wearing one in a fallout area would lose 1 RP per 25 minutes (not 10 minutes).

Most of the Wasteland: No RP lost. Even in a heavily nuked landscape, *most* of the area will have mild background radiation at worst. (And if you live long enough for *that* to kill you, you did great!)

Contaminated Wasteland: 1 RP/hour. These areas will be common, and sometimes quite large (several miles across).

Fallout Area: 1 RP/10 minutes. In addition, everyone not wearing a gas mask, holding their breath, etc., must make a HT+5 roll every 10 minutes. Failure means they breathed in some fallout dust and take 1 RP/minute for the next 10 minutes (ignoring PF)!

Near a Nuke Crater: 1 RP/5 minutes if you're close enough to see the crater.

Around or In a Nuke Crater: 1 RP/X seconds, where X is the number of yards you are from the center of the crater. (For simplicity, the GM can round X to the nearest 5 or 10 yards.) At the center itself, you lose 1 RP/second!

Hospital or Lab: If you open up a machine with radioactive materials (e.g., some imaging equipment or advanced, energy-based, chemotherapy machines), lose 1 RP immediately and another every 10 minutes if you stick around. Handling actual isotopes or samples makes this 1 RP/minute – or a flat 3d RP if you ingest any!

*Nuclear Waste Dump or **Operational** Nuclear Reactor:* Treat being inside a waste vault or near a *working* reactor as being in a crater (above), with X determined by how far you are from the *center* (not edge) of the waste pile or reactor.

*Unexploded Nuclear Weapon or **Inoperative** Nuclear Reactor:* No loss in most cases, but if one is *leaking,* from 1 RP/hour to 1 RP/minute, depending on the leak size. See *Bombs and Mines* (p. 11) for defusing a nuke, and "Nuclear Legacy" (in *Pyramid #3/88: The End Is Nigh*) for detailed descriptions of nuclear plants and bombs.

> *America is an irradiated wasteland. Within it lies a city. Outside the boundary walls, a desert.*
>
> *– Judge Dredd, in **Dredd***

Rogue Bots

Robotic enemies can be the main villains of a setting (*Reign of Steel*, p. 6) or a bit of flavor to be dropped into *any* game with an initial tech level (pp. 7-8) of 9+. Even if the robots never revolted, after decades of neglect, their programming may have degraded to the point where they're likely to treat *anyone* as a foe, just to be safe.

Fighting Steel

Robots are *extremely* tough and inexhaustible, but not particularly intelligent. Wastelanders may find it easier to fool or avoid bots than to take them on directly. All are immune to metabolic hazards and radiation; they have no FP or RP score to lower.

Capabilities

Use **Mechanic (Robotics)** or **Expert Skill (Robotics)** to identify what type of bot you're looking at and recall its specific capabilities; from a distance, apply speed/range penalties. If it's a unique or unknown model, success by 0-2 gives a vague summary of its likely intent (e.g., "It's a loading bot. No obvious weapons. Probably pretty strong.") while success by 3+ gives better details about its capabilities (e.g., "Metal plating, about DR 4-5. ST in the 30-40 range, with hydraulic claws. Tracked Move 8-10, but half that off-road.").

Many robots have integral weapons or gadgets. If the robot is defeated, wastelanders may wish to salvage these, but this is not an easy task, as they were never designed to be used outside of the bot! Treat this as an attempt to "invent" the weapon or gadget as a simple modification (p. 41), with the bot providing a +5 parts bonus.

Weaknesses

After a bot has been identified or analyzed, you may make a second roll against **Expert Skill (Robotics)** or **Mechanic (Robotics)** to determine any weak points. These include weak spots in the armor where DR is halved, quartered, or even nonexistent (usually -8 to hit), key sensors which will blind the robot if they take over HP/10 damage (usually -9 to hit), or more general things (e.g., "it cannot climb stairs").

Similarly, a roll against **Computer Programming** or **Expert Skill (Robotics)** will let you guess at how the robot will respond to a certain situation or stimulus. The GM will roll; on a failure by 1-4, you don't know, but on a failure by 5+ or critical failure, he *lies*.

Electricity

Every electronic robot (which is most of them) shares a vulnerability to any damage with the *surge* modifier, like electricity. If such an attack does *over* 1/3 HP, the robot must make a HT roll to avoid shorting out. Failure disables it for seconds equal to the margin of failure; during this time, anyone who can reach the robot can use a Ready maneuver to attempt to deactivate it; this requires a successful **Expert Skill (Robotics)** or **Mechanic (Robotics)** roll. Critical failure disables it until repaired (a minor repair, p. 41).

REPROGRAMMING

A deactivated robot may be reprogrammed. A destroyed one (or one that critically failed a HT roll against electricity) may not be until it's repaired (p. 41). Reprogramming takes 10 minutes for most people, one minute for a gadgeteer, or 10 seconds for a quick gadgeteer, modified by *Time Spent* (p. B346). It requires a Quick Contest of **Computer Programming** against the robot's Will; the programmer is at -2 if he lacks a separate computer (working on the robot brain *directly* is difficult).

If the programmer wins, he may give the bot a number of *broad* commands (e.g., "do not let anyone enter this room") equal to his margin of victory – or delete existing ones. A new command may include recognition of a large class of subjects ("all humans") or of *one* specific person; adding additional people counts as multiple commands (e.g., "do not let anyone except the four of us enter this room" counts as four commands). If the programmer ties or loses, he may try again, but his margin of loss is applied as a penalty to his next attempt. *Exception:* If he loses by 10+, the robot goes berserk and attacks *everyone!*

SAMPLE BOTS

The following bots are representative of the typical threats wastelanders may face. Any game featuring frequent rogue robots will benefit from the catalog of sample bots found in *GURPS Ultra-Tech* or *GURPS Reign of Steel: Will to Live.*

Guardian

This humanoid "rent-a-guard" was used to patrol many commercial areas, but with most of those areas destroyed, it can now be found "patrolling" the wasteland. It's equipped with an integral dual-setting electrolaser. Weaknesses vary by model; e.g., the Guardian-50 has optic sensors protected by DR 2 glass (-9 to hit) which break if they take 4+ points of injury, blinding it.

ST: 20	**HP:** 20	**Speed:** 5.75
DX: 11	**Will:** 12	**Move:** 5
IQ: 6	**Per:** 10	**Weight:** 125 lbs.
HT: 12	**FP:** N/A	**SM:** 0
Dodge: 8	**Parry:** 9	**DR:** 10

Electrolaser (14): Victim must roll against HT-4 plus DR/2 or be stunned for seconds equal to the margin of failure; he may roll vs. HT every second to recover. Acc 8, Range 160/470, RoF 3, Rcl 1, Bulk 0.

Electrolaser, Lethal Setting (14): As above, plus 4d(2) burning surge damage.

Punch (13): 2d crushing; Reach C.

Traits: AI; Automaton; Doesn't Breathe; Doesn't Eat or Drink; High Pain Threshold; Machine; Nictitating Membrane 3; No Sense of Smell/Taste; Reprogrammable.

Skills: Brawling-13; Innate Attack (Beam)-14; Observation-12.

TASE

Short for *Tracked Assault Sentry/Eliminator,* the TASE is a rolling assault platform, originally used to guard military or similarly sensitive locations. Its tracks allow it to move quickly over any type of terrain, its armor makes it very difficult to hurt, and its weapons can make short work of most intruders. Don't bother keeping track of the carbine's shots; assume that if destroyed, the victors can salvage 3d×10 5.56mm rifle cartridges. Weaknesses vary by model; e.g., the TASE-18 has a back panel which can be forced open (roll ST at -5) by someone who sneaks up on it, allowing an attack (at -7 to hit) to bypass DR.

ST: 32 **HP:** 32 **Speed:** 5.75
DX: 11 **Will:** 14 **Move:** 6
IQ: 8 **Per:** 12 **Weight:** 500 lbs.
HT: 12 **FP:** N/A **SM:** 0

Dodge: 8 **Parry:** 9 **DR:** 60 (Hardened 1)

Assault Carbine, 5.56mm (14): 4d+2 piercing; Acc 4, Range 400/3,000, RoF 15, Bulk 0, Rcl 2.

Laser Pistol (14): 3d(2) burning; Acc 6, Range 250/750, RoF 10, Bulk 0, Rcl 1.

Punch (13): 3d+3 crushing; Reach C.

Traits: Absolute Direction; AI; Automaton; Doesn't Breathe; Doesn't Eat or Drink; Enhanced Move 1 (Ground Speed 12); Extra Attack 1; High Pain Threshold; Machine; No Fine Manipulators; No Legs (Tracked); No Sense of Smell/Taste; Reprogrammable.

Skills: Brawling-13; Innate Attack (Beam)-14; Innate Attack (Projectile)-14; Observation-13.

ZOMBIES

The traditional zombie is a corpse, reanimated by some force that keeps it up and walking around in defiance of modern medical knowledge. Of course, that explanation doesn't fit all campaign settings! Fortunately, there are several non-corpse-related ways to justify using this hazard in a game:

● Disease or toxin victims – not dead and reanimated, but suffering and driven mad from the pain. This is particularly likely from mutagen (p. 11) or proteus virus (p. 23).

● Heavily irradiated living folks, their brains half-liquefied but their bodies still working.

● Inhuman monsters that only somewhat resemble humans, brought here by aliens or inside of meteors.

● The result of human experimentation – not as per *Mutants* (pp. 18-21), more like lobotomies gone horribly wrong.

However, if the setting allows for walking corpses, most games can benefit from adding zombies as-is. There's a reason "zombie apocalypse" has become such a popular genre – they're dangerous and deadly, but fun to kill!

If zombies will feature heavily in your game, consider acquiring **GURPS Zombies** and **GURPS Zombies: Day One.** The former is not only a huge "bestiary" of unique, memorable zombies (and "zombie bosses") but also gives advice on fighting them, using them in interesting ways, and adding new ones to your game. And the latter contains several ready-to-use zombie apocalypses, such as its "Alpha and Omega," "Time of the Zombies," and "Ultimate Zombie-Fighters" campaign frames.

CAUSE

Why are the dead bodies up and about? The answer is important to know, not only for flavor, but because it makes a difference if the heroes decide to try tackling the problem on a broad scale, and affects whether the zombies are likely to be infectious (p. 28).

Aliens: Extraterrestrials have modified human corpses or experimented on living humans. The resultant shufflers may be infectious, but it's not required; more zombies may just keep appearing because the greys keep making them! Stopping the problem requires getting hold of (and comprehending) the alien technology behind it.

Disease: A zombie flu (p. 15), usually defined as infecting the living, killing them, and raising their bodies. The zombies are almost *always* infectious. Stopping the problem requires finding a cure (see *Treatment*, p. 14), which may be hard to do if the virus mutates.

Experiments: We were too smart for our own good, and figured out a way to animate corpses. Now, they're up and about, eating us. They are as likely to be infectious as not. As with aliens, stopping the problem requires putting hands on the tech that started it.

Nanotech: Billions of nanobots are inside every zombie, linked together to animate it. They aren't usually infectious via bite, but if the zombie is killed, the bots may find *other* nearby corpses to animate to fulfill their programming. Stopping the problem requires finding a way to drive out the nanobots; see pp. 22-23 for more.

Radiation: We invented new bombs, but didn't realize the aftereffects that high doses of radiation would cause. The zombies are rarely infectious, but often give off a small amount of radiation; anyone engaging in melee combat with multiple zombies loses 1 RP (total) at the end of the fight! Stopping the problem is difficult; it may be impossible, or there may be a "counter-radiation" that *lots* of research can turn up.

Space Rays: As for radiation, but *cosmic*. The good news? The zombies aren't radioactive. The bad news? A cure is unlikely.

Other: The GM can come up with many other causes. This includes the outright supernatural – a divine curse, a magic spell, etc. Such things are beyond the scope of this book, but they might make a surprising curveball for players who are convinced there's a scientific reason behind everything!

While the GM can have multiple sources spawning zombies, this can get confusing very quickly unless zombies are the *only* common hazard. Usually it's best to stick to one cause. Use **Expert Skill (Mutants)** to answer general questions about zombies.

Smart Zombies

Zombies are inherently mindless; it's part of their very definition. But what if the GM wants an intelligent zombie NPC? Or a player wants to be one? Build such a creature as a mutant (pp. 18-21). There's no reason a mutant's deformities can't be "rotting flesh," "exposed brain," etc. Be sure to take the basic "zombie package" of Redundant Organs and Unnatural Hardiness, and you'll be shuffling into the spotlight in no time.

INFECTION

The GM must decide whether zombies are infectious. If so, it makes fighting them a *much* scarier prospect – though see *Unturnable PCs* (below). Use the following rules.

Everyone has a starting *Zombification Resistance* (ZR) score equal to HT+11. Every time someone is bitten, his ZR is reduced by the injury he takes. At the end of each *turn* in which he's injured via zombie bites, he must roll against his (reduced) ZR to avoid infection; 17 or 18 fails automatically, as usual. If successful, add his margin of success to his ZR, as he fights off the effects. Failure means he's been infected! The ZR score cannot go below 4 or above its original value.

Example: Freida has HT 14, and thus ZR 25. She's bitten for 7 injury; this reduces her to ZR 18. At the end of the turn, she rolls against ZR and gets a 12; since she succeeded by 6, her ZR improves to 24. Next turn, she's bitten again for 4 injury; at the end of the turn, she rolls against ZR 20 and succeeds by 8. This restores her ZR to 25, since it cannot exceed its original score. On the third turn, she's bitten by three zombies, for a *total* of 18 injury! This takes her ZR to 7 by the end of the turn – good thing she has Luck . . .

The GM may wish to make these ZR rolls in secret, to prevent wastelanders from knowing whether they've been infected, but it's also reasonable to assume that the infection is painful and obvious. The rolls may be affected by certain advantages, depending what caused the zombies (p. 27); e.g., **Resistant to Disease** adds its bonus against disease-based zombies unless the GM has ruled otherwise. **Resistant to Metabolic Hazards** *always* aids ZR rolls, while **Immunity to Metabolic Hazards** makes them unnecessary.

Healing an injury does *not* affect ZR – someone can have full HP and still have a frighteningly low ZR. Instead, ZR recovers completely 48 hours after the last zombie bite, assuming the victim wasn't infected.

If the victim ever fails a roll, he must immediately roll against HT, at a penalty equal to his final ZR roll's margin of failure; if **Resistant** gave a bonus to the ZR rolls, add that here as well. If this roll succeeds, he must roll again in one minute at an *extra* -1, then again in 10 minutes at -2, then again in an hour at -3, and then *every* hour at a cumulative -1. The moment he fails one of these HT rolls, he collapses to the ground, dead; after HT seconds, he rises as a zombie. For each physical attribute and secondary characteristic, use the *better* of the living subject's or the zombie template's score; always use the zombie template's IQ, Will, and Per.

Unturnable PCs

Fighting infectious zombies is a quick way to become one, which may lead to PCs who are willing to fight them only from a distance. If the GM wants infectious zombies, but wants to encourage melee combat, he can make the perk **Immunity to Zombification** available – or even *give* it to the PCs for free. This will allow them to worry less about every little bite, and treat zombies like any other threat. See *Immunity* (p. 14) for more on the concept.

SAMPLE ZOMBIES

There are many different takes on zombies, but the following are two popular ones. The slow zombie is mindless and shuffling, while the fast zombie is quicker, more cunning, *and* stronger. Neither is a serious threat on its own – the *real* danger comes from the sheer numbers in a zombie horde (p. 29).

When attempting to sneak past a *single* zombie, use its listed Per score. Sneaking past a *group* is much harder; roll once for the group, but at an effective +1 Per for every member past the first, to a maximum of Per 16. If the zombies win, (margin of victory)+1 zombies immediately notice, with the others following suit gradually as they see their comrades react to the prey.

The world's gone mad, he thought. The dead walk about and I think nothing of it. The return of corpses has become trivial in import. How quickly one accepts the incredible if only one sees it.

*– Richard Matheson, **I Am Legend***

Slow Zombie

This foe always makes All-Out Attacks and never defends, retreats, makes Deceptive Attacks, etc. It has no special vulnerabilities, but a good cutting attack *or* any attack to the brain can put it down quickly.

ST: 10	**HP:** 10	**Speed:** 4.50
DX: 8	**Will:** 15	**Move:** 4
IQ: 3	**Per:** 8	**Weight:** 150 lbs.
HT: 10	**FP:** N/A	**SM:** 0
Dodge: N/A	**Parry:** N/A	**DR:** 1 (Tough Skin)

Bite or Claw (12): 1d-3 crushing; Reach C. Made as an All-Out Attack (Determined).
Grapple (12): Made as an All-Out Attack (Determined). No damage, but see *Horde Combat* (p. 29). In a horde, effective grappling ST is 12.

Traits: Appearance (Monstrous); Automaton; Bad Smell; Cannot Learn; Disturbing Voice; Doesn't Breathe; Doesn't Eat or Drink; Doesn't Sleep; High Pain Threshold; Immunity to Metabolic Hazards; Indomitable; Infectious Attack (usually); Injury Tolerance (No Blood, No Vitals, Unliving); No Sense of Smell/Taste; Sexless; Single-Minded; Unhealing (Total); Unfazeable.
Notes: Neither has nor uses FP.

Fast Zombie

This version is faster, stronger, and smarter than the slow zombie. It has enough mental capacity to use cover and stealth, and is capable of Deceptive Attacks, active defenses, and strategic retreats. It may be found in groups, but doesn't understand tactics well enough to make use of numbers.

ST: 15 | **HP:** 15 | **Speed:** 6.00
DX: 10 | **Will:** 15 | **Move:** 6
IQ: 6 | **Per:** 11 | **Weight:** 150 lbs.
HT: 12 | **FP:** N/A | **SM:** 0

Dodge: 10 | **Parry:** 10 | **DR:** 1 (Tough Skin)

Bite or Claw (12): 1d+1 crushing; Reach C.

Grapple (10*): No damage, but see *Horde Combat* (below). In a horde, effective grappling ST is 18.

Weapon (9*): Based on Damage 1d+1/2d+1. Made as a Telegraphic Attack: +2 to defend against it. If using an improvised weapon, apply any skill penalty as well.

Traits: As for slow zombie, plus Combat Reflexes.
Skills: Brawling-12; Stealth-11.
Notes: Neither has nor uses FP.

* Often made as an All-Out Attack (Determined) for an extra +4 to hit.

HORDE COMBAT

When the zombies outnumber the PCs by at least 2:1, use the following rules to speed things up. Zombies in a horde will usually grapple prey and then begin biting, though a nimble foe may prompt them to attempt a takedown; see *So You've Been Grappled* (below).

1. The GM notes the number of zombies and their *major wound threshold* (excess of HP/2): 6 HP for slow zombies, 8 HP for fast ones.

2. The PCs always act first, in the order they choose if cooperating, or in turn sequence order (p. B363) if not. This is true even if a hero's Basic Speed is lower than the zombies'. Follow steps 3-6 for each PC.

3. When a PC attacks, he simply rolls to hit, as if attacking a single zombie. He has all the usual options: hit location, Rapid Strike, All-Out Attack, and so on.

4. If the zombies are making All-Out Attacks, move to step 5. Otherwise, they get a standard defense roll against each of the PC's attacks, penalized by any Deceptive Attack. Roll once per discrete attack. As usual, when dodging rapid fire, success avoids (margin of success)+1 bullets.

5. Roll damage, subtract DR, and apply the wounding modifier for Injury Tolerance (Unliving) from p. B380 – except for brain hits, which get the usual ×4. For lots of identical hits, like machine-gun bullets, use average damage (3.5 points/die), find injury, multiply by the number of hits, and drop fractions at the very end.

6. Each *full* multiple of the zombies' major wound threshold takes one zombie out of the fight. Lesser injury has no effect. The zombies have no states between "beaten" and "fine" (no "stunned," "knocked down," "crippled," etc.). This abstraction accounts for realistic overpenetration, knocking one zombie into another, and so on.

7. Once every PC has acted, it's the zombies' turn. If there are still at least two zombies per PC, assume that they shore up their ranks and that each PC will be attacked by two zombies; continue to step 8. If there are *fewer* than two zombies per PC, finish the battle using *standard* combat, not these horde rules – those last few zombies are always the toughest! (Of course, if there are *no* zombies, the fight is over!)

8. Roll the zombies' attacks, let the PCs defend, and assess any injury as in standard combat. The *heroes'* fate merits extra detail!

9. If the zombies grapple, they do so together. Make *one* attack for *both* zombies; success grapples with the effective ST noted for each type of zombie. A grappled PC is at a huge disadvantage (*So You've Been Grappled,* below) and should probably use his next action to break free.

10. Return to step 2 – unless the zombie-to-human ratio has somehow fallen below 2:1, in which case see step 7.

When targeting a horde with some sort of resistible effect, rolling for each zombie takes *forever,* while making a single roll for the horde produces extreme results. So instead, figure out what target number a zombie would have to roll to resist, look up *Probability of Success* (p. B171) for that value, and have that percentage of zombies resist; round to the nearest whole number. The rest (usually the ones closest to whatever caused the effect) succumb.

Example: The heroes have found out that zombies were an intentional creation as a weapon of war. Jo has even learned some rudimentary ways to control them, reflected as Expert Skill (Zombie-Speaker)-11. When the party is attacked by 32 slow zombies, she tries ordering them to stand down. This requires her *winning* a Quick Contest of her Expert Skill against their Will. She succeeds by 3, which means the zombies have to roll a 12 or less to resist (beating their own Will by 3 and thus tying). Per p. B171, a target number of 12 corresponds to 74.1%, and 32 × 0.741 = 24 zombies. So the eight closest zombies immediately stand down and will not attack, leaving 24 to fight.

SO YOU'VE BEEN GRAPPLED

If grappled, you can take only Attack, All-Out Attack, or Ready maneuvers, and cannot step or move; any actions are at -4 DX, which also gives you -2 to Parry and -1 to Dodge until free! In addition, you can use only unarmed attacks, weapons with reach C, or firearms (at a *further* penalty equal to Bulk). You can try to throw the zombies off by *winning* a Quick Contest of your ST vs. their ST+5; you get to add any **Lifting ST** along with +1 if you know **Sumo Wrestling** or **Wrestling** at DX+1, or +2 if at DX+2.

After grappling a victim, zombies will usually transition to biting. But if the victim continues to successfully defend, they'll attempt a takedown instead. This is a Quick Contest of their ST (at +2 if made as an All-Out Attack (Strong)) vs. the higher of your ST (plus the bonuses mentioned above), DX (at -4 for being grappled), or best grappling skill (also at -4). If you *win*, you break free of all grapples. On a tie, nothing happens. But if you lose, you're grappled *and* lying down, for a net -5 to Parry, -4 to Dodge, and -8 to attack back!

Chapter Three
Boldly Going Forth

Some situations are especially common in a post-apocalyptic world. Ruins from the old civilization dot the landscape, life is harsh and unforgiving outside of whatever small settlements remain, half of the gear being used is cobbled together out of mismatched parts, and so on. These universal challenges, mixed with setting-appropriate hazards chosen from Chapter 2, will define the obstacles that the PCs have to overcome to master the wasteland.

Survival

Even an apocalypse will not necessarily wipe all verdant landscape from the world. Diseases that slaughter humanity will not necessarily touch trees or fish; the cities may have been destroyed by nukes, but the countryside 100 miles away is still alive; and so on. This makes it possible, though difficult, for wastelanders to survive on their own. Still, the GM may apply extra penalties – or even declare it impossible to "live off the land" – as appropriate for his specific setting. (In some campaigns, the opposite is true, as the removal of humanity ushers in a "Garden of Eden" age; if so, survival rolls may be at a bonus or simply succeed automatically!)

Any specialty-free reference to **Survival** assumes the specialty for the current terrain; remember that all land-based Survival specialties default to Per-5, Naturalist-3, or Survival (other terrain)-3. Everything except *Travel* takes one hour per attempt, modified for *Time Spent* (p. B346).

The inhabitants of ruined cities and settlements tend to use up all of the natural resources around them. Because of this, gathering and hunting rolls are at -1 when within 10 miles of "civilization," -2 when within 3 miles, -3 when within 1 mile, and -4 when within 1/2 mile.

Gathering

Finding edible produce, eggs, and small game (which, for simplicity, includes fish) is reliable but low-yield; typically, *everyone* has to gather to feed an entire group. Each gathered meal weighs 2 lbs. If multiple gatherers team up, they each roll separately, but they can complement each other's skills.

Roll against **Naturalist** or **Survival.** Travelers may use whichever of the two master skills they *didn't* use, **Area Knowledge** (at the "City" level or smaller; see *Area Class,* p. B176), or **Climbing** as a complementary skill (p. 31). All rolls are at -1 in arctic or desert climates, or -2 in a radioactive wasteland.

Critical success finds 1d meals (minimum three), success by 5+ gives two, success by 0-4 locates one, failure yields nothing, and critical failure means 1 HP lost to poison berries, piranha bites, etc. If disease or radiation is an issue, at the end of each stretch of gathering, the GM will secretly make a *second* roll against each person's master skill, using all the same modifiers. If this fails, a number of his gathered meals equal to the margin of failure are *tainted* (see **Wastelanders,** p. 30).

Trapping

Roll against **Survival** or **Traps.** Whichever skill you choose, you may use the *other* skill, **Camouflage,** or **Naturalist** as a complementary skill (p. 31). Otherwise use the standard gathering rules.

Faster Gathering

If the group has to make a *lot* of gathering/trapping rolls at once, the GM may speed this up by forgoing the dice rolls and assuming that a certain degree of skill will, on average, secure a given number of meals. Add +1 to effective skill for a complementary skill of 12 or higher.

Skill	Meals/Hour	Skill	Meals/Hour
3-8	0.25	14-16	1.5
9-11	0.5	17-19	2
12-13	1	20+	2.5

Total *all* values together, for every attempt made by every person that day, and then round down.

Hunting

Hunting is more dangerous, often fails, and usually requires multiple people with decent ranged weapons – but it can bring back *much* more food than simple gathering. The key is to get into position without the prey noticing and bolting. The closer you have to get, the more important it is to take extra time (p. B346).

1. Use **Tracking** to locate suitable game, at a cumulative -3 for every previous hunting attempt (successful or not) in the same location each day. **Naturalist** and **Survival** may complement this roll. In a group, use the single best Tracking. Higher success finds larger prey; see pp. B455-460 for sample animals. If this roll fails, the time is wasted.

2. Once the hunters are within 50 yards (range penalty -8), they must roll a Quick Contest of **Stealth** vs. the prey's *best* sense to approach without it realizing. In a group, roll against the *worst* Stealth, but any hunter with **Luck** may use it on this roll. If the group *ties* or *loses,* the prey bolts; skip to step 4.

3. (Optional) Some or all of the hunters may try to get closer, to eliminate range penalties *or* use melee weapons. This requires *further* Quick Contests of **Stealth,** as above. A tie or loss means the prey bolts, but victory brings the hunters one step closer on the *Size and Speed/Range Table* (p. B550), eliminating -1 in range penalties, with the prey still unaware.

4. Attack! The details depend on whether the prey bolted or is still unaware; see below. Either way, if a single volley of weapon fire does not put it down, it will run or attack on its next turn; switch to standard combat.

Unaware: Roll against weapon skill. Apply any range penalty (p. B550) but add Acc+2 (for three turns of aiming) to ranged weapon skills. The prey gets no defense.

Bolted: Melee attacks can succeed only if the hunter got within (Move/10 + weapon Reach) yards for a standard Attack, (Move/2 + weapon Reach) for an All-Out Attack, or (Move + weapon Reach) for a Move and Attack; round fractions up. Ranged attacks are unaimed and take the current range penalty. The prey may dodge.

The hour of hunting time does not include *butchering* time. Half of the animal's weight can be turned into cuts of meat; each pound of meat then counts as one meal. This takes one hour per 100 lbs. of the animal's prebutchered weight. If disease or radiation is an issue, the GM should secretly roll against the butchers' best **Naturalist** or **Survival** skill; failure means the meat is *tainted* (see *Wastelanders,* p. 30). Butchered and (over-)cooked meat will be edible (if not tasty) for about a week. Turning the meat into jerky extends its lifespan indefinitely and halves its weight, but requires suspending it over a campfire for a full day.

Hunting is always dangerous. The target may attack the hunters rather than fleeing. If its herd or pack is nearby, *they* may join in! Even after the kill, other animals may investigate; some will only want the prey for themselves, while others may attack the hunters out of sheer orneriness. And turning food into jerky gives any animals downwind a Smell roll to pick up on the delicious scent.

Dogs

Dogs can help their masters hunt. This requires a successful **Animal Handling (Dogs)** roll (from the master, not the dog); failure means the time is wasted. Use the standard hunting rules, with the following changes:

- In step 1, use the dog's Tracking (typically 16-18).
- Skip steps 2 and 3, as the dog will flush the game toward the hunters. This makes melee weapons useless.

- In step 4, the prey *automatically* bolts, but the hunters are waiting for it and aiming. They roll against ranged weapon skill, at -4 for range but adding Acc+2. The prey *can* dodge, but at -2 due to distraction.

WATER FORAGING

Locating water requires a **Prospecting** or **Survival** roll, at +10 in most climates or no modifier in the desert. Success finds (margin of success) + 1 pints, or an effectively unlimited amount on success by 10+. If fresh water is nearby (e.g., a river or lake), don't bother rolling; just assume that water isn't an issue.

However, if any of the situations described under *Water* (p. 13) apply, the difficulty becomes one of finding *safe* water! Make a *second* roll against **Naturalist, Prospecting,** or **Survival.** Apply only the foraging penalty from *Water* and any penalty for being near civilization (*Survival,* pp. 30-32).

Critical Success or Success: The water is safe (or can be made safe).
Failure by 1-3: The water is tainted (or can be improved to be only tainted).
Failure by 4+: The water is as unsafe as water typically is. (If typical water is only *tainted* in the setting, this produces the same result as failure by 1-3.)
Critical Failure: The water is *worse* than normal, but this is not obvious until it's used! Tainted becomes irradiated or diseased (as applicable); mildly toxic becomes severely toxic; irradiated, diseased, or severely toxic becomes acidic; and acidic causes harm twice as quickly.

Complementary Skills

Whenever it makes sense, the GM may allow a *complementary skill* to aid the use of another *master skill.* The two skills can be relied on by the same person or different ones (e.g., someone using Stealth to sneak into a place may benefit from a friend using Fast-Talk to distract guards). To do this, first roll against the complementary skill; the result gives a modifier to the master skill: +2 for critical success, +1 for success, -1 for failure, or -2 for critical failure. A skill can never serve as both complementary and master skill for the same task, nor can you default one from the other; e.g., you cannot use Naturalist as the master skill and the Naturalist-3 default for Survival as a complementary skill, because you're technically rolling against Naturalist twice.

TRAVEL

Most travel will rely on the rules for *Hiking* (p. B351) or vehicular *Long-Distance Movement* (p. B463). Travelers can accept the speeds given there or attempt to eke out a more efficient route. If they choose the latter, every adventurer responsible for only himself rolls against the relevant movement skill: **Hiking, Riding** (if on a mount), **Skating,** or **Skiing.** Similarly, someone in charge of a vehicle rolls against its operation skill – **Boating, Driving, Piloting, Seamanship,** or **Teamster,** as appropriate – for everyone aboard. Roll each day.

Critical success adds 20% to effective distance traveled, success adds 10%, failure subtracts 10%, and critical failure subtracts 20% . . . or, at the GM's option, yields *interesting* results.

It's easy to get lost in the wilderness. Roll against **Area Knowledge** (if you have it for *this* area) or **Navigation (Land)** for every day of travel, at +3 if using rivers, +4 if you have a good map (*Wastelanders,* p. 30), or +5 if both apply. Critical success means you travel 20% farther than you normally would (cumulative with **Hiking,** etc.), success means you're on target, failure means you travel only half as far as you would have, and critical failure means you got turned around (lose *two* days of travel) *or* end up somewhere dangerous and interesting (GM's call). **Cartography** can act as a complementary skill (p. 31), by helping you read *or* create a map of the trip. This allows you to double-check your position, distance traveled, and so on. You don't get the bonus for having a map on the trip in which it's created, but if you make this trip (or its reverse) *again,* the full +4 applies.

> ## PACK IT UP!
>
> **Freight Handling** is the skill of loading and unloading vehicles (including animal-drawn ones), **Packing** handles loads carried directly on animals, and either **Soldier** or *IQ*-based **Hiking** covers personal backpacks. As such details are boring, the GM should gloss over them in most cases – with three important exceptions. These replace the usual rules for such skills.
>
> *Rush Job:* Sometimes you need to pack *quickly;* e.g., when a dangerous storm (pp. 12-13) is coming. Anyone can hurriedly throw gear into sacks and strap them into place, averaging about 1 lb. per loader per second. A successful roll against an appropriate skill *halves* this time for everyone, or *quarters* it on a critical success! In all cases, this results in poorly packed gear; fragile objects are particularly vulnerable to breakage (but see below).
>
> *Safely Stowed:* In any situation where a packed item is in danger of breaking due to *indirect* force (e.g., the horse falls over or the trunk it's in is dropped), the GM will roll against the best appropriate skill used to stow it, if any. If successful, the item doesn't break! This has no effect if the item takes damage directly.
>
> *Well-Organized:* Finding a particular object in a load of gear normally takes 1d seconds per full 50 lbs. of total gear (minimum 2d seconds); see *Typical Long Actions* (p. B383). Anyone who used an appropriate skill to oversee or assist with loading that gear can roll against that skill to *halve* this time, or *quarter* it on a critical success – even if someone else is grabbing it!

While traveling, a successful **Area Knowledge** or **Survival** roll will apprise the heroes of current travel conditions and common dangers, though the GM may require this roll to succeed by a certain degree to pick up on *uncommon* dangers. **Area Knowledge** or **Current Affairs** for the region can warn of things like gangs, paramilitaries, dangerous settlements, etc. Finally, successful use of **Weather Sense** always warns of inclement meteorological issues.

Scouting

Anyone moving at least 50% faster than the rest of the party may scout ahead without slowing down the rest of the group. If no one is fast enough or there are good reasons to send a slower scout ahead, the main group can voluntarily reduce their speed until the above is true, accepting that the trip will take longer.

The scout may make **Per** rolls to spot *most* hazards, **Observation** to detect ambushes, **Survival** to identify subtle natural issues, and *Per*-based **Traps** to spot traps; apply modifiers for **Acute Senses** and similar traits as appropriate. However, enemies will detect the scout unless he *wins* a Quick Contest of his **Stealth** vs. their most appropriate sense (usually Hearing). If the scout is on a mount or in a vehicle, use the *lower* of **Stealth** or his applicable operation skill (**Boating, Driving, Piloting, Riding,** or **Teamster**); for noisy vehicles, the GM should assign a further penalty.

CAMPING

When bedding down in a new outdoor area, make a **Survival** roll to find and set up a good campsite, at -2 without group basics. Critical success allows you to claim all three benefits below; success, two of them; failure, just one; and critical failure, none. Anyone with **Serendipity** may use it to stumble onto a site offering all three.

Comfort: Without this, everyone ends up cold, wet, bug-bitten, etc., losing 1 FP and gaining 1 LFP. Campers lacking even rudimentary sleeping arrangements (e.g., no tent *and* no sleeping fur or bag) must "spend" *two* benefits to claim comfort, unless **Serendipity** was used.

Concealment: The camp is well hidden. Raiders are at -1 to Vision to spot it *and* the party is at +1 to any **Camouflage** rolls to conceal it.

Lines of Sight: Enemies must approach over open ground (-1 to Stealth) *and* the party has +1 to **Per** or **Observation** rolls to spot them.

Anyone may set up "noise traps" to catch raiders sneaking up on the site. This takes an extra hour. If sentries don't spot the intruders, roll one last Quick Contest: the *higher* of the trap-setter's **Survival** or **Traps** vs. the enemy's Vision. Victory awakens the campers.

RUINS AND BUNKERS

Some of the best stuff in the wasteland is hidden away in ruins – old buildings that predate the apocalypse. The most easily accessible have long since been looted, but that just means our heroes have to take on bigger challenges, right? These rules cover getting in; once in, use **Search** to locate a specific item, **Architecture** to find a certain room, or see *Scavenging* (pp. 36-38) to grab whatever seems nifty and useful.

The line between "ruin" and "bunker" is fuzzy, but most bunkers the PCs are likely to come across were built specifically to survive the End Times. They are likely to have occupants, often entire communities – but this does *not* mean they're safe, friendly places (see *Hostile Townies,* p. 17)! While it's unlikely that the wastelanders will be breaking into such a place just to loot it, adventures often provide *other* reasons to infiltrate such a heavy-duty home.

GETTING INSIDE

The least-looted ruins, and most bunkers, can be a bit of a challenge to get into – and if someone else beat you to it, it can be even *harder* to make it in unseen. The rules below are *also* useful for infiltrating gang (pp. 15-17) and paramilitary (pp. 23-24) camps, both of which put effort into securing their borders.

Fences

To circumvent a fence, go *over* or *through* it; any fence lousy enough to go *under* is background color at most. Attempting either gives any guards a chance to see the intruders, who must *win* a Quick Contest of **Stealth** vs. the sentries' Vision to remain undetected.

Climbing over a fence calls for a **Climbing** roll. A tall or sloping fence imposes from -1 to -4 to this roll (GM's call). Repeated attempts are at no penalty, but each try gives sentries *another* chance to spot you! Critical failure means you fall for 1d-3 HP of injury (ignoring DR) *and* any guards notice you.

Bolt or wire cutters can make short work of a fence, no roll required. An improvised fence takes one minute to cut through, a real one takes two, and a high-quality version takes three to five minutes. In all cases, a successful **Forced Entry** roll halves this time. Reroll **Stealth** every *full* two minutes.

Locks

Picking a standard mechanical lock requires a minute of work and a **Lockpicking** roll, at -10 with no equipment, -5 with a multi-tool or similar gadget, or no modifier for proper picks. The GM may also assign a modifier from +5 for a cheap indoor lock to -10 for a top-of-the-line model. Repeated attempts are at a cumulative -1. Critical failure jams the lock, making further attempts impossible.

An *electronic* lock (like a keypad or card reader) uses the same rules, but requires different tools: -10 for none, -5 for any electronics-related tool kit, or no modifier for electronic lockpicks *or* Electronics Repair (Security) tools. (Note that the roll is against Lockpicking, though, *not* Electronics Repair!)

Safes and Vaults

Treat safes and vaults like anything *else* with a lock, with these changes:

● Base time is one *hour,* not one minute.
● Basic equipment needed is a stethoscope – part of a crash kit (p. B289) or available separately (see *New Gear,* p. 47).
● Such locks are always high-security (-5 to -10) and there may be *multiple* locks on a single safe.

Alternatively, wreck the thing using the *Doors* (below) rules. A document safe has DR 20, HP 19. A business safe has DR 120, HP 73. And a bank vault has DR 400, HP 127 – or more! Assume attached hardware has half the DR and HP.

Doors

If a lock is broken, nobody knows Lockpicking, or time is of the essence, going *through* the door can be the best option! This automatically negates any Stealth attempt except as noted; everyone in the area gets a Hearing roll to notice the noise.

Bashing: Use an axe, crowbar, etc., to destroy the door itself. Forget attack rolls! Just roll damage (use swing+2 damage with a crowbar). Add the better of +2 or +1 per die for All-Out Attack (Strong) – and *another* +1 per die with **Forced Entry** at DX+1, or +2 per die at DX+2. The GM subtracts DR, multiplies by 1.5 if using a cutting attack, and reduces the target's HP until it reaches 0 and allows entry.

Blasting: Use the rules for *Blowing Stuff Up* (p. 34). Explosives in contact with the door inflict maximum damage. Subtract DR and apply remaining damage to HP. At 0 HP, the door is mangled to the point where an unmodified **Forced Entry** roll can pull it open; at -HP, it's annihilated!

Forcing: A less-extreme option is to apply force to overpower the door's attached hardware (that is, its lock, chain, or hinges). Roll a Quick Contest of **ST** vs. the hardware's HP. You may add **Lifting ST,** +2 for a crowbar, and +1 if you have **Forced Entry** at DX+1, or +2 at DX+2 – but you take a penalty equal to the hardware's DR. You must *win* to open the door. Repeated attempts cost 1 FP and are at a cumulative -1.

Severing: If the door has exposed chains, hasps, padlocks, etc., these can simply be cut. Treat this as bashing (above) with a cutting tool, with two exceptions. First, the attached hardware's DR and HP are typically lower. Second, bolt cutters (only) can be nearly silent; roll against the *lower* of **Forced Entry** or **Stealth** to be sneaky.

Doors and Attached Hardware Table

	Door		Hardware	
Obstacle	DR	HP	DR	HP
Blast Door	70	60	33	66
Home Exterior Door	1*	23	6	11
Home Interior Door	1*	18	3	6
Home Reinforced Door	4	23	6	11
Security Door	30	47	11	22

* Ablative DR.

Security Systems

Bunkers and high-value buildings may be protected by security systems – sensors designed to detect intruders and raise the alarm if someone breaks in. Spotting one requires a roll against **Per** at -5, **Observation,** or *Per*-based **Traps;** apply any Vision modifiers (e.g., darkness penalties). The GM should assume PCs are always on the alert for such things, and roll once (against the team's *best* skill) even if they don't say they're looking.

Most sensors are simple electrical circuits or mechanical devices that trigger when someone opens a door, unlatches a locker, etc. These must usually be disabled (p. 34) to circumvent them, but some sensors offer other options.

Cameras: These can be disabled, *or* the team can simply try to avoid being seen. The intruders must *win* a Quick Contest of the worst **Stealth** in the party vs. the effective skill of whoever is monitoring the camera (*Intruder Alert!,* below) – use the *best* of his (or its) Vision, Electronics Operation (Security), or Observation. Excellent camera placement or multiple cameras gives the monitor from +1 to +10 on this roll!

Motion Detectors: These can be disabled or sneaked past slowly (no more than Move 0.5 – one yard per *two* seconds) by *winning* a Quick Contest of the worst **Stealth** in the party vs. the Electronics Operation (Security) skill of whoever is monitoring the sensor.

Disabling Sensors

Disarming: Disabling a mechanical device or simple electrical sensor calls for a **Traps** roll. Eliminating an electronic system requires an **Electronics Operation (Security)** roll *if* the controls are accessible. If all that's available is a sensor housing, the intruder needs electronic lockpicks or an Electronics Repair (Security) tool kit (-5 with a multi-tool, or -10 with no tools), must roll against **Electronics Repair (Security)** to crack the housing safely, and then has to make an **Electronic Operations (Security)** roll – and this just bypasses the local sensor, not the whole system! The GM rolls secretly; failure triggers the alarm. The infiltrator will be aware of his mistake . . . unless it was a *critical* failure.

Hacking: Computerized security systems are vulnerable to techs if there's a networked terminal available. See p. 42 for rules.

BLOWING STUFF UP

It takes about (DR + HP)/3 dice of damage to render something useless until repaired, or (DR + 2×HP)/3 dice to obliterate it forever (drop fractions). To convert this to a number of sticks of dynamite, estimate the nearest whole multiple of 9 and square it. Anyone with **Explosives (Demolition)** will know how many charges to use (no roll needed); others must roll against IQ at -5 or other Explosives at -4.

Example: A blast door with DR 70, HP 60 calls for (70 + 60)/3 = 130/3 = 43d to blow open – or (70 + 2×60)/3 = 190/3 = 63d to blow away completely. 43d is *about* 5×9, so it takes 5×5 = 25 dynamite sticks to open a blast door. 63d is exactly 7×9, which means 7×7 = 49 sticks are needed to obliterate it.

When the charges are *prepared,* the GM will secretly roll against the preparer's **Explosives (Demolition)** skill; failure means a dud, while critical failure means an explosives disaster! Getting the charges in place and lit requires no special skill. However, a demolitions expert can use **Explosives (Demolition)** to tamp his charges (loud and requires tools) *or* **Architecture** to target a structure's supports (quiet but requires internal access). Success with either option halves the number of needed charges, rounding up; e.g., merely 13 dynamite sticks for that blast door. Failure means the explosion doesn't do its job – try again. Critical failure means it blows up while the hero is still within the blast radius!

Shooting: This works! Many sensors are tiny (SM -10 or worse) and/or tough (DR 5+), however, calling for a skilled shooter with a good weapon.

Cutting Power: If a wastelander can access an installation's power supply (generator, battery, etc.), he can roll against **Electrician** to cut power. This will disable any security system – *unless* said system has backup power. However, it may make certain doors (particularly bulkhead-style ones) impossible to open.

Rearming: A disarmed or hacked (not destroyed!) sensor can be rearmed again using the same rules.

Intruder Alert!

Tripping a sensor (or being noticed on a camera) can generate several different responses.

All Hands on Deck: The occupants are alerted to the invasion. This may be a quiet alarm (e.g., a flashing red light) somewhere the infiltrators won't notice, or a loud intercom warning the entire compound, "Intruders detected in the Biology Lab! Intruders detected in the Biology Lab!"

Robotic Defense: A high-end security system may include various guard robots, which will move toward the breach. See pp. 25-27 for sample models and details.

Turrets: Some systems have built-in countermeasures, such as a 7.62mm assault rifle (p. B279) hooked up to an auto-targeting system. A typical turret has SM -2, DR 18, HP 16, and Guns (Rifle)-12 – but skill *can* be higher! Don't bother tracking ammo use; if destroyed or disabled, assume the victors find 3d×5 7.62mm rifle cartridges. The rifle itself can also be salvaged if the turret was disabled; it will require a minor repair (p. 41) to use on its own. (If the turret is *destroyed,* so is the rifle!)

Traps: Triggering the security system may arm traps (p. 36) which normally lie dormant.

Locks: Some systems automatically lock all doors when alerted. Or they may lock *most* of the doors, funneling intruders into a designated kill zone!

THIS OLD HOUSE

Most ruins have seen better days. When a building is falling apart, just walking through it can be hazardous! The GM should determine a building's *structural integrity modifier,* either by rolling 2d-8 (and applying the modifiers below) or choosing an appropriate value. The structural integrity modifier will typically range from +4 (surprisingly good condition) to -6 (rotting supports and huge holes in every floor and wall), though it *can* go as low as -14 (absolute deathtrap) after modifiers.

Modifiers: +2 if the building was designed for emergency use (e.g., fire department or hospital); from -1 to -4 if the local area was especially badly hit by disaster; a possible penalty from *How Long Ago?* (p. 8).

Each wastelander must roll against **Per,** *Per*-based **Architecture,** or **Urban Survival** once per "area" explored; apply the structural integrity modifier, +2 for **Danger Sense,** and +1 for **Perfect Balance.** The definition of an "area" varies. For a series of small buildings (e.g., a neighborhood of residential homes), each structure is an area.

In a typical multi-level building (e.g., apartments or an office tower), each floor is an area. For a large, wide building (e.g., a supermarket), the GM should divide it up into areas of about 2,000 to 3,000 square feet.

Anyone spending over an hour exploring a single area rolls *again* for every additional hour or fraction thereof spent in it; e.g., a person spending 90 minutes on each floor of a three-story building would make six rolls (two for each floor). If for some reason a hero must exit and reenter the same area multiple times within an hour (e.g., the air is poisonous but they have a SCBA mask and 20-minute air tank), roll again upon each reentry.

Before entering a building (no matter how large), a single wastelander may make an (IQ-based) **Architecture** roll to advise everyone on how to proceed. Each party member must decide if they'll take his advice *before* he rolls. (If so, they *cannot* use Architecture as their own exploration skill, but must instead roll against Per or Urban Survival!) Treat this as a complementary skill (p. 31) for everyone who listened.

If an explorer fails an area-exploration roll, he has a mishap! Make a note of how much the roll fails by, then roll 1d on the *Mishap Table* to determine which part of the building gives way. Use the column appropriate to the situation. First, determine whether the character is on the lowest floor in the structure (usually the basement). Then, use the "Walls" column if the building has plenty of internal walls (most do) or "No Walls" if it's almost entirely open (like a department store). On the roof of a building, skip the table and go directly to *Floor* (below).

Mishap Table

| Lowest Floor | | Other Floor | | |
Walls	No Walls	Walls	No Walls	Result
–	–	1-2	1-3	Floor
1-3	1-6	3-4	4-6	Ceiling
4-6	–	5-6	–	Wall

If the roll is a *critical failure*, the mishap is always a major one, and then the klutz must make a **DX** roll at -1, applying the structural integrity modifier. If this fails, he has *another* mishap; if it was another critical failure, he must make another DX roll at -2 afterward, and so on, applying a cumulative -1 for each critical failure. A chain of critical failures is likely to cause structural collapse (below)!

Mishaps are noisy. Anyone (friend or foe) nearby may make a **Hearing** roll, at -3 for a minor mishap, no modifier for a major one, and +2 for a critical failure.

Floor

Minor (Failure by 1-4): A bad piece of the floor gives way, causing the explorer's leg to "punch through." He may roll against **DX** to avoid the leg falling through completely; otherwise he takes 1d-1 crushing damage to one leg.

Major (Failure by 5+): The floor completely gives way under the wastelander; he falls through to the level below. For most buildings (*Falls*, below), this does 2d-1 crushing damage unless he can make an **Acrobatics** roll to land on his feet.

Ceiling

Minor (Failure by 1-4): Debris falls from the ceiling, landing on the explorer. He may roll vs. **Dodge** at -2 to avoid it; otherwise, he takes 1d crushing damage to a random hit location.

Major (Failure by 5+): A huge part of the ceiling collapses, right overhead, for 2d crushing damage. This is large-area injury (p. B400). The subject *and* anyone within three yards are affected; each may roll vs. **Dodge** at +1 to find partial cover; success provides the equivalent of DR 3.

FALLS

For simplicity, use the following table instead of the calculations on p. B431 when someone of roughly human weight falls. Roll 12d for any fall from above 100 yards.

Distance	Damage	Distance	Damage
1 yard	1d	30 yards	5d
2 yards	1d+1	35 yards	5d+2
3 yards	1d+2	40 yards	6d-1
4 yards	2d-1	45 yards	6d
5 yards	2d	50 yards	6d+2
10 yards	3d	60 yards	7d
15 yards	3d+2	70 yards	7d+2
20 yards	4d	80 yards	8d+1
25 yards	4d+2	100 yards	9d+1

Wall

Minor (Failure by 1-4): While the wastelander is using a wall as support to avoid a different hazard, it collapses! This does 1d-2 crushing damage. He must make an **Acrobatics** or **Escape** roll to avoid becoming trapped in the rubble. If trapped, he must roll against **ST** or **Escape** to get out; each attempt costs 1 FP.

Major (Failure by 5+): As above, but it is a load-bearing wall! This does 1d damage (instead of 1d-2) and *permanently* reduces the structural integrity modifier by 1!

Structural Collapse

The GM should keep a running tally for each building: Start at 0, then add 1 for every minor mishap, 2 for every major one, and 5 for every critically failed mishap. Every time this tally reaches a multiple of 5, roll 3d and *add* (current tally)/5, rounded down. On a 19+, the structure collapses! (The structural integrity modifier doesn't factor into this directly, but it has a huge *indirect* effect in encouraging mishaps.)

Anyone in a collapsing building takes 3d crushing damage, *plus* 1d per story in the building. (It doesn't matter where everyone is; victims on higher floors fall farther while those on lower floors have more land on them.) A victim may attempt to dive for cover (p. B377) behind a structural support. On a success, he receives DR equal to the building's exterior wall DR (typically 6-10) but is still trapped in the rubble, as for *Wall* (above); on a *critical* success, he escapes the building unharmed.

TRAPS

Traps are an easy way to defend an area against intruders. Gangs (pp. 15-17) are especially fond of traps, but any currently *or* formerly inhabited building may be riddled with them. The GM should make detection rolls in secret, using the party's *best* skill.

Contact Toxins: A contact agent may be simply smeared on a doorknob, lever, etc. Make a *Per*-based **Chemistry** or **Poisons** roll to notice it; add **Acute Vision** if visible and **Acute Taste and Smell** if it has an odor. These rolls often have penalties! Make an appropriate **Hazardous Materials** roll to remove the stuff safely; failure means it gets on someone. See *Chemicals and Munitions* (pp. 9-11), *Disease* (pp. 13-15), and *Nanotech* (pp. 22-23) for details.

Joy Buzzer: Anyone can hook live wires to a metal object or plate; this requires a roll against **Vision** at -4 or *Per*-based **Electrician** to notice. If the trapper knew what he was doing, make this a Quick Contest against his Electrician skill. Contact delivers a jolt of burning surge damage – usually 3d, but larger power sources can deliver up to 12d! The DR of gloves or boots (as applicable) protects, but DR (Tough Skin) is *ignored* and metal armor provides only DR 1. A victim forced to remain in contact with the electricity continues to take damage every 10 seconds.

Mines: See p. 11 for details; the same rules apply to explosively booby-trapped items, doors, etc.

Pit: An open pit requires an uncontested **Vision** or *Per*-based **Traps** roll to spot; darkness penalties apply. If it's been covered with something breakable (e.g., thin plastic), this becomes a Quick Contest against the trapper's Camouflage

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Ruins Are Dangerous

In addition to the many dangers presented on pp. 9-29, the GM should remember to include any of the hazards from Chapter 2 that make sense for the setting. A ruin may have leaking barrels of toxic waste (p. 10), fallout dust (*Radiation,* p. 25), corpses riddled with disease (pp. 13-15), mutant animals (pp. 19-21), and so on. The better the potential loot, the harder the wastelanders should have to work for it!

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skill. Failure to notice it means the person in the lead falls in (p. 35). Shards of metal at the bottom convert falling damage to *cutting;* vertical spears or spikes change it to *impaling.*

Sabotaged Gear: Gadgets like weapons and vehicles may be sabotaged ahead of time. Roll against the relevant repair skill (e.g., **Armoury** for weapons) *or* the *IQ*-based operation skill at -4 (e.g., IQ-based **Driving** at -4 for a car) to realize the danger. The specific result of using the item varies, but will be at *least* as bad as a critical failure. It can be undone as a minor repair (p. 41).

Sensor: A trap can be set off by a security sensor. See *Security Systems* (pp. 33-34) for spotting or disarming it, and *Trap Effects* (below) if it's set off.

Simple Switch: This includes contacts attached to doors, pressure plates, tripwires, and any other simple mechanical relay or electrical circuit. Make a *Per*-based **Traps** roll to notice such a thing, then either avoid it or use *IQ*-based **Traps** to disarm it. Activation may cause one of various *Trap Effects* (below).

Trap Effects

Sensors and simple switches can set off a variety of effects. A few common ones:

Chemical: Something noxious sprays out of nearby ducts, filling the room. See *Chemicals and Munitions* (pp. 9-11), *Nanotech* (pp. 22-23), or *Weaponized Viruses* (p. 15) for rules.

Deadfall: Something heavy falls on top of whoever triggered the trap. For human-sized objects, use the damage from *Falls* (p. 35); otherwise, see *Damage from Falling Objects* (p. B431). The victim may roll against **Dodge** at -2 to avoid it.

Explosion: With a pressure plate, this *is* a mine (p. 11); otherwise, use those rules, just with a different trigger.

Gunfire: A concealed weapon (gun, crossbow, etc.) fires its full RoF at the victim. Because it's pre-aimed, it has a skill of 14 to shoot the subject (who may dodge as usual), but has a *very* limited arc of fire. If the wastelanders were nice enough to line up for it, see *Hitting the Wrong Target* (p. B389). If you can reach the weapon, use **Traps** or an appropriate specialty of **Armoury** to disarm and salvage it.

Trapdoor: A door opens directly beneath the subject. He may make a single **DX, Acrobatics,** or **Jumping** roll to get out of the way – otherwise, he falls (p. 35).

SCAVENGING

Any currently or formerly inhabited location may still have a wealth of useful stuff . . . mixed in with *tons* of junk and trash. A skilled scavenger can separate the wheat from the chaff. These rules can be used in any indoor or outdoor location where humans (or mutants, etc.) used to live or work; for "scavenging" in the wilderness, see *Survival* (pp. 30-32).

For each area (*This Old House,* pp. 34-35) of a structure explored, one wastelander may roll against **Scrounging** or its Per-4 default, applying the appropriate modifier from the *Scavenging Table* (p. 37). This takes an hour, adjusted for *Time Spent* (p. B346). The GM may allow a skill specific to the location to complement (p. 31) this roll; e.g.,

Freight Handling when searching a truck depot. The GM must decide how many areas outdoor locations (such as camps) comprise.

If successful, note the margin of success and proceed to *Results* (pp. 37-38). Failure wastes the time; critical failure *also* causes a major mishap (*This Old House,* pp. 34-35).

Multiple Scavengers

Each area can be scavenged *once* at full skill. Repeated searches after that (whether made by the same wastelander or different ones) are at a cumulative -3. Thus, it's generally best for a team to split up when scrounging.

Alternatively, they can work together as a single unit. Follow these steps:

1. Designate one scavenger as the leader – usually the one with the best Scrounging skill. Everyone else is an assistant.

2. Average the assistants' Scrounging skills, rounding to the nearest whole number. Roll against this average skill and treat it as a complementary skill to the leader's roll (below). This is an exception to the rule about no skill being able to complement itself.

3. Roll against the leader's **Scrounging** skill, with the complementary skill modifier. If there are multiple assistants (not counting the leader), also apply +1 for 2-3 assistants, +2 for 4-7, +3 for 8-15, +4 for 16-29, and +5 for 30 or more. Use the leader's result for *all* purposes.

LOCATIONS AND LOOTING

The *Scavenging Table* (below) lists several location types. If a given place doesn't fit into one of these categories, the GM should either choose the closest applicable one or come up with new modifiers that feel right – and more appropriate location-specific stuff.

Commercial: A place at which retail goods were sold, stored, or processed. Small examples include convenience stores and pawn shops; large ones include malls and mega-marts.

Corporate/Trade: A place where professionals plied specific trades. Small examples include standalone accountants and hairdressers; large ones include office buildings and business headquarters.

Encampment: A gang (pp. 15-17) or mutant (pp. 18-21) camp, either outdoors or based in a nondescript building. (If the building clearly fits into one of the other categories here, use that category.) See *Encountering Gangs* (p. 15) for examples.

Food: A place that sold, stored, or processed groceries; this can include *any* location likely to be stocked with canned and preserved goods. Small examples include independent grocers and food kitchens; large ones include supermarkets and packing plants.

Industrial/Research: Either a place that manufactured or stored materials (e.g., aluminum, plastic, or coal), or one that was related to scientific research. (While these two categories are very different, the *loot* tends to be similar!) Small examples include storage buildings and trailer-labs; large ones include factories and warehouses.

Medical: A place devoted to healing the sick. Small examples include doctors' offices and standalone pharmacies; large ones include hospitals and drug-processing centers.

Military/Police: A place equipped for martial or peacekeeping action. Small examples include police stations and small paramilitary (pp. 23-24) bases; large ones include National Guard depots and large paramilitary bases. True military sites (e.g., an Air Force base) are *wonderful* places to scavenge . . . but they're *always* occupied and well-defended.

Residential: A place where regular folks used to live. Small examples include houses and trailers; large ones include apartment buildings and condos.

Transport: A place for storing, maintaining, or using vehicles. Small examples include truck depots and mechanic shops; large ones include airports and train stations.

For each type, the scavenging modifier depends heavily on how looted-out the location is, as determined by the GM:

Unlooted: The place is currently inhabited, or has not been looted since the last occupants moved out. It *has* gone through cycles of looting and occupation; a truly pristine location (that is, one that has not been touched since the apocalypse) is a unique find, something the GM will have to adjudicate.

Semi-Looted: The location has only recently been abandoned or is somewhat hard to get to, and has thus been invaded by a few groups of scavengers.

Looted: Many wastelanders have had a chance to pick through this area. Very little obvious "treasure" remains.

RESULTS

Roll 3d on the *Scrounging Results Table* for each successful scavenging attempt. Use *Minor Finds* for success by 0-4 or *Major Finds* for one by 5+. For a critical success, use *Major Finds* for a margin of 0-4 or *Amazing Finds* for one of 5+. (Thus, most amazing finds require a combination of luck *and* skill.)

In addition to this, if your scavenging was successful *and* the result was equal to or less than the Stash value on the *Scavenging Table* (below), you have a chance to find something special; see *Stashes* (p. 38).

Scavenging Table

Location	Unlooted	Semi-Looted	Looted	Stash	Location-Specific Stuff
Commercial	0	-3	-5	6 or less	Miscellaneous equipment
Corporate/Trade	-2	-4	-5	6 or less	Computers; tools
Encampment	0	-2	-4	5 or less	Rations; ammo; weapons
Food	-1	-3	-5	5 or less	Canned food; common drugs
Industrial/Research	-2	-4	-6	7 or less	Tools; scientific gear; computers
Medical	-1	-4	-6	6 or less	Medical supplies; experimental consumables
Military/Police	0	-3	-6	5 or less	Ammo; weapons; law-enforcement gear
Residential	0	-2	-4	7 or less	Junk*
Transport	0	-3	-6	5 or less	Vehicular parts (for repair); fuel

* See **Wastelanders** (p. 30). While residential buildings are easy to scavenge and often have stashes, the prevalence of junk makes them a mixed bag.

Example: Alex (Scrounging-14) and Michael (Scrounging-7, at default) are both scavenging a semi-looted grocery store (-3). Alex rolls a 5; this succeeds by 6, so he rolls on *Major Finds, and* it's equal to or less than Food's Stash value, so he gets to check for a stash. Michael also rolls a 5; this is a failure, so he finds nothing and *doesn't* check for a stash, even though he rolled equal to or less than the Stash value.

In all cases, the table results are only *suggestions;* the GM can always override the initial roll or the $ value roll, or simply choose something appropriate. The categories are written to match a wide variety of locations; they do not refer to specific lists of equipment. "Consumables" refers to food, medicine, recreational drugs, etc., but not ammunition. "Location-specific stuff" refers to the suggestions given on the *Scavenging Table.* The GM should use the result as inspiration when deciding what the wastelander finds.

Scrounging Results Table

Roll	Result

Minor Finds

Roll	Result
3-5	Ammo worth $(2d×20).
6-8	Miscellaneous gear worth $(2d×20).
9-11	Junk worth $(2d×10).
12-14	Location-specific stuff worth $(2d×10).
15-16	Consumables worth $(2d×20).
17-18	A weapon or armor worth approximately $(2d×50).

Major Finds

Roll	Result
3-5	Consumables worth $(2d×200).
6-8	Junk worth $(2d×50).
9-11	Location-specific stuff worth $(2d×50).
12-14	Ammo worth $(2d×50).
15-16	Miscellaneous gear worth $(2d×100).
17-18	A weapon or armor worth approximately $(2d×200).

Roll	Result

Amazing Finds

Roll	Result
3-5	Miscellaneous gear worth $(2d×1,000).
6-8	Consumables worth $(2d×500).
9-11	Location-specific stuff worth $(2d×250)*.
12-14	Ammo worth $(2d×250).
15-16	A weapon or armor worth approximately $(2d×500).
17-18	A vehicle worth approximately $(3d×3d×200).

* If location-specific stuff is junk (as for residential locations), reroll this.

STASHES

Most scavenging involves finding gear that's been overlooked, buried, and so on. But every once in a while, a wastelander has a chance to notice something that's been intentionally *hidden.* When a successful scavenging roll is also equal to or less than the Stash rating, the scrounger should immediately make a **Search** roll, using the same modifier that applied to the Scrounging roll. If successful, he locates something valuable enough that its owners intentionally hid it – which is why previous looters failed to notice it. If not, there is no stash to be found. Either way, this roll takes no additional time.

The GM should tailor the contents of a stash to the location and situation. A stash should always be something *interesting,* not just another bit of gear. This is an excellent way to reward a player with something too expensive to roll on the chart (e.g., a beam weapon) or something suited toward setting up another adventure (e.g., the code and location of a safe-deposit box in another city). The Search roll may be all that's needed to locate the stash – for example, if it's in a drawer's false bottom – or there may be additional security measures in place. Really good stuff may be locked inside of hidden safes (p. 33), stored as data inside a computer which must be hacked (p. 42), and so on. The better the contents, the harder the PCs should have to work for it.

INVENTIONS, UPGRADES, AND REPAIRS

With most technology being scrounged from the ruins of a previous world, the ability to adapt and maintain it is more vital than ever. Gadgeteers may take the spotlight with their cinematic feats of item creation and modification, but less spectacular feats of engineering are a day-to-day thing in the wasteland. For these rules, the term "inventor" refers to someone who lacks either version of the Gadgeteer advantage.

The *Engineering Table* (p. 39) provides necessary details for *Inventing* (pp. 40-41) and *Upgrading* (p. 41):

Value: The value of the device being created, or the value of the upgrade. It assumes that the TL adjustment (**Wastelanders,** p. 29) has been applied. For example, a TL8 camcorder (p. B289) is a $16,000 invention, *not* a $1,000 one!

Mod. (Modification): The skill modifier used for *Simple Modifications* (p. 41) and *Upgrading* (p. 41).

Inv. (Invention): The skill modifier used for *Inventing* (pp. 40-41).

Time: The time required to complete this project. *Time Spent* (p. B346) may be applied to this normally, but engineering can never be truly instant! At -10 to skill, divide time by 60: Minutes become seconds, hours become minutes, each day becomes 0.4 hours, and each week becomes 2.8 hours. (Anything less than a minute becomes a flat 1 second.)

Engineering Table

Value	Inventor			Gadgeteer			Quick Gadgeteer		
	Mod.	Inv.	Time	Mod.	Inv.	Time	Mod.	Inv.	Time
Up to $10	-2	-7	2d+2 hrs.	+2	-2	2d×5 min.	+6	+3	1d×30 sec.
Up to $100	-4	-9	1d×10 hrs.	+1	-3	4d×10 min.	+5	+2	2d min.
Up to $1,000	-6	-11	1d days	-1	-5	2d hrs.	+4	+1	1d×10 min.
Up to $10,000	-8	-13	2d days	-2	-6	4d hrs.	+3	0	1d×20 min.
Up to $100,000	-10	-15	2d×4 days	-4	-8	2d×5 hrs.	+2	-1	1d×30 min.
Up to $1,000,000	-12	-17	4d weeks	-5	-9	1d days	+1	-2	1d hrs.
Up to $2,000,000	-14	-19	6d weeks	-7	-11	2d-1 days	0	-3	2d hrs.
Up to $3,000,000	-16	-21	4d×2 weeks	-8	-12	3d-2 days	-1	-4	3d hrs.
+$1,000,000	-2	-2	+1d×2 weeks	*	*	+1d-1 days	-1	-1	+1d hrs.

* Further levels alternate between -2 and -1 (for a net -3 per +$2,000,000).

PARTS

Inventing (pp. 40-41), *Upgrading* (p. 41), and *Repairing* (p. 41) each specify a required $ amount worth of "parts." In a perfect world, these parts would be exactly what the action calls for ("I need an 80mm × 5.56mm rifled barrel with one end flanged and the other threaded . . .") – but in the wasteland, you often have to improvise, using bits and pieces from *several* unrelated items to achieve the same effect (". . . I was able to use the washers from this toy, the bread hook from this blender, this piece of window frame, and a few drinking straws, and it *works!*").

Thus, the *effective* value of your equipment as "parts" is adjusted based on how appropriate the gear is to the repair in question. The GM always has the final say as to which category your equipment falls into:

Unrelated (e.g., a set of clothes when fixing a gun): 0.1× value.

Barely Related (e.g., handcuffs when fixing a gun, as both use metal bits): 0.5× value.

Junk (**Wastelanders,** p. 30): Full value. Its inherent randomness makes it bulky and worth little, but also versatile!

Related (e.g., a beam weapon when fixing a gun, as both use triggers, sights, etc.): Full value.

Very Closely Related (e.g., a completely different gun when fixing a gun): 2× value.

Same Thing (e.g., a copy of the gun you're trying to fix): 4× value.

With the exception of junk, the above assumes the equipment is in working condition. *Broken* gear is worth half value as parts. (Most people will trade broken gear for a quarter normal price, though, which makes it a good deal for techs!) Be sure to describe how you'll use this hodgepodge to create or repair your gadget – that's part of the fun!

Example: Tommy, a Quick Gadgeteer, wants to build binoculars ($1,600; p. B289). He needs $160 in parts to do it. All he can spare is an $80 flashlight (related, thus $80; the GM rules that he can use the glass cover, plastic, etc.), a $100 sleeping bag (unrelated, thus $10; perhaps he'll melt down the synthetic fibers), some $50 lockpicks (unrelated, thus $5; he'll weld them into the frame), and 10 lbs. of junk ($1). $80 + $10 + $5 + $1 = $96, which is 60% of what he needs. But he isn't out of luck! Read on . . .

If you cannot come up with enough, you are at -1 to skill for every -10% (or fraction thereof) worth of *missing* parts. (Minor repairs are the exception; see p. 41.) You must acquire at *least* 10% of the parts you need (-9 to skill); you cannot create something from nothing! If you have *extra* parts, this gives a bonus: +1 for 2× what you need, +2 for 4×, +3 for 8×, +4 for 15×, and +5 (the maximum) for 30×.

If the action results in a critical success, success, or critical failure, the parts are used up or wasted. A normal failure leaves you with all of the parts intact so you can try again.

TECH-LEVEL MODIFIER

The tech level of a device affects any roll to invent, upgrade, repair, or analyze it.

TL	Modifier	TL	Modifier
0-4	+4	9	-3
5	+3	10	-6
6	+2	11	-9
7	+1	12	-12
8	0		

Superscience (^) gives an *additional* -5.

Picking and Choosing

The values given for parts assume that you're stripping down the *entire* object, leaving nothing that even qualifies as junk. If a wastelander wants to pick and choose (e.g., "This robot gives me way more than I need to max out my parts bonus, so I'm just going to use a quarter of it."), divide the effective value of the *remaining* parts by 5. This reflects the diminishing value left as the best parts are cherry-picked for use. For simplicity, assume that weight is reduced by the percentage used. If this ever makes the remainder worth less than junk ($0.10 per pound), treat it as junk instead.

Example: Sam is creating an electronic device and needs $100K in parts. He recently captured a $5M robot and wants to use it, but anything past $3M is wasted, so he uses only $3M worth of the robot. The robot is now worthless for anything *but* parts, and its value for that is now $2M/5 = $400K.

It originally weighed 200 lbs., but with 60% used up, Sam records it as "Dismantled Robot, $400K, 80 lbs." Later, Sam needs to repair something and uses another $100K worth of parts from the leftover 'bot. Now its weight is 60 lbs. (he just used 25% of it), and its remaining value is $300K/5 = $60K.

Fabrication

You may attempt to use **Machinist** to create the right *mechanical* parts (e.g., gears or levers) or any project that needs them. You may utilize **Electrician** in the same way for *electronic* parts. If both cases apply, you can roll against both! Each is *one try only* per project; if your project fails and you try the whole thing again, your fabrication rolls are at a cumulative -1 penalty.

Modifiers: No penalty in a machine shop or electronics lab, -5 with improvised equipment, or -10 for no appropriate equipment. If your "Modification," "Invention," or "Repair" modifier is a penalty, apply it as well; if it's a bonus, ignore it.

Success supplies (margin of success + 1) × 5% of the parts you need for this specific project (only); critical success also gives you +1 on the final skill roll for your project. Failure simply wastes time; critical failure inflicts 1d-3 injury (ignoring DR) from a minor accident.

Attempting to fabricate one category of parts (mechanical *or* electrical) doubles the time spent on an invention or upgrade; doing both *triples* the time. For a repair, look up the value of the gadget being fixed on the *Engineering Table* (p. 39); the time shown there is how long it takes to attempt to fabricate each category of parts. This includes time spent scrounging and scavenging for appropriate materials; in an area where no materials are available (e.g., the middle of the desert), the GM is within rights to disallow fabrication.

Pharmaceutical creations are similar, except that the brewer can use **Chemistry** to synthesize ingredients in a lab or **Naturalist** to gather appropriate ingredients. The latter ignores modifiers for lab quality, but takes twice as long.

INVENTING

Creating a new device from scratch generally requires **Engineer,** though drugs use **Pharmacy.** The value of the parts (pp. 39-40) needed is equal to 100% of the creation's value for inventors, 30% for gadgeteers, and 10% for quick gadgeteers.

Selling Inventions

Even an invention (pp. 40-41) that works *perfectly* will look scary as heck: parts held together with bits of wire, a case made from animal skulls and old lunch boxes, and so on. Because of this, NPCs will never buy these back at full price! The value of a bug-free invention is 40% of the item's normal cost; the GM may choose to increase this if only proper parts and methods were used in its creation. Every bug halves this value, cumulatively (e.g., 20%, then 10%, then 5%) – and as it looks so odd, the buyer *will* fully test it first! The same goes for the extra value added via upgrading (p. 41). Thus, these rules are best for creating something the PC wants to use, not a way to make quick cash.

Assembly takes the time shown on the *Engineering Table.* You may decide to spend more or less time on it (*Time Spent,* p. B346) *before* the GM rolls for the actual time. At the end of this time, roll against the appropriate invention skill (see above). This one roll covers both your concept *and* how well you design and build it.

Modifiers: The *Tech-Level Modifier;* the Invention ("Inv.") modifier from the *Engineering Table;* +1 for Versatile; -2 for Hidebound; -2 if the GM is certain that this device did not exist before the apocalypse *and* does not exist now; any modifier for missing or excess parts (see p. 39); any modifier for taking more or less time; any modifier for the workspace being used (see below).

Critical Success: The device works perfectly, with no bugs or side effects. If you were making a one-shot item (arrow, grenade, etc.), you make 1d+1 of them.

Success: It works, but it might have a few bugs. Head to *Bugs and Multiple Copies* (below).

Failure: The time was wasted, but you still have your parts.

Critical Failure: You wasted your time *and* your parts, with nothing to show for it.

Bugs and Multiple Copies

Depending on your margin of success and how crazy your methods are, your invention may have a few bugs. To determine this, follow these steps:

1. Roll 1d for a normal inventor, 1d+2 with Gadgeteer, or 1d+4 with Quick Gadgeteer.
2. Add 3 if it was superscience (^). Add (TL-8) if it was a TL9+ invention.
3. Subtract *twice* your margin of success.

This is how many bugs (p. B476) your invention has, with a minimum of 0 and a maximum of 3. If you would have had 6+ bugs before applying that maximum *and* you added anything in step 2, the GM may turn one bug into a "side effect" (p. B479).

One-Shot Items: If you were making a one-shot item and the result of step 3 is *negative,* you make one additional copy for every *full* -4.

Example: Acer is using Quick Gadgeteer to whip up arrows for her hunter pal. The generous modifiers give her an effective Armoury (Missile Weapons) of 25, and her invention roll succeeds by 11. The GM rolls 1d+4 (8) and subtracts twice her margin of success (22), for a net -14. So not only does she have no bugs, she also creates *four* arrows instead of one – not bad for a few minutes of work and a single roll!

Workspace

These rules assume the wastelander is working out of improvised facilities; e.g., the back of a big rig or someone's home. If this is not the case, apply the appropriate modifier from the table on p. 41. (Normal inventors benefit more from better facilities only because the *Engineering Table* bundles in a "poor tool penalty" for them that doesn't hurt gadgeteers as much.)

Workspace Table

Workspace	Inventor	Gadgeteer	Quick Gadgeteer
None (wilderness, etc.)	-5	-5	-5
Improvised	0	0	0
Professional but wrong (e.g., an auto shop when making a beam weapon)	+2	0	0
Professional and right	+5	+2	0
Above, plus high-quality and in perfect shape	+6	+3	+1
Above, but cutting-edge, amazing gear	+7*	+4*	+2*

* Or more! The GM may add up to (setting's maximum TL)/2 to the "professional and right" bonus.

Simple Modifications

To turn one gadget into another, use the rules above; the old one counts as parts, which makes the invention easier. However, if the *only* part being supplied for an invention is a single device that falls into the category of "very closely related" or better (*Parts*, pp. 39-40), the GM may rule that this is a simple modification. If so, *halve* the required time and use the more favorable Modification ("Mod.") modifier instead of the Invention one.

Example: You *can* turn a radio into a bomb, by ripping out most of its guts and replacing them with explosive ones, but this is a standard invention. Turning a radio into a radar signal detector is significantly easier, as you just have to change which frequencies it picks up – this is thus a simple modification.

UPGRADING

Instead of building something from scratch, you can add functionality to an existing device. This cannot be something which fundamentally changes the function of the device; for that, use *Inventing* (pp. 40-41). For example, adding off-road (four-wheel drive) capability to a car is an upgrade, but converting the engine into a power generator for a village is an invention.

Upgrading uses the same rules as inventing, except as follows:

● The effective $ value is based on the *improvement* being added. For example, if a gasifier sedan is worth $16,000 and an off-road-equipped version is worth $24,000, then this is an $8,000 upgrade, not a $24,000 one.
● Use the easier Modification ("Mod.") modifier instead of the Invention one.
● When determining bugs (p. 40), *halve* the value rolled in step 1 (round up).

At the GM's option, a *very* straightforward upgrade (e.g., improved suspension) may use these rules *or* be treated as a major repair (below) – whichever is easier for the tech.

REPAIRING

Fixing broken equipment usually requires an appropriate specialty of **Armoury** for weapons, **Electronics Repair** for electronics, **Mechanic** for vehicles and generators, **Electrician** for appliances and power tools, or **Machinist** for hand tools. If the item still has positive HP, this is a *minor repair;* if it's down to 0 HP or worse; this is a *major repair.* (At -5×HP,

or after failing a HT check to avoid destruction, it's not repairable at all – barter for or build a new one!)

Repairs do not use the *Engineering Table;* instead, all repairs use the modifier from the table below. Gadgeteer gives no special advantage for repairs.

Device Value	Repair Modifier
Up to $1,000	+1
Up to $10,000	0
Up to $100,000	-1
Up to $1,000,000	-2
Over $1,000,000	-3

Each attempt requires 30 minutes (which may be modified by *Time Spent*, p. B346) and a skill roll. Success restores HP equal to the margin of success (minimum 1); critical success also fixes some secondary issue completely if applicable. Failure just wastes time; critical failure *causes* 1d HP of injury to the gadget!

Modifiers: The *Tech-Level Modifier* (p. 39); the Repair modifier above; an extra -2 for major repairs; any modifier for taking more or less time. No modifier for proper tools; -5 for improper or improvised ones; or -10 for *no* tools. Any modifier for parts (but minor repairs never take a *penalty* for parts); see below.

Parts for Repairs

Minor repairs do not require parts (pp. 39-40), but they help! Treat the repair as needing parts equal to 5% of the gadget's value, *only* for the purpose of obtaining an "extra parts" bonus. If you don't have enough parts to get a bonus, don't worry about it.

Major repairs *need* parts equal to 1d×10% of the item's value.

In both cases, the parts are needed for the repair as a whole, not for each attempt. For example, a damaged big rig may take *dozens* of repair rolls to fix, but you need only come up with the necessary parts once.

ANALYZING

Deducing the purpose of an unknown device requires a successful roll against the same skill that would be used to invent or modify it (*Inventing,* pp. 40-41). The GM will usually roll in secret, as it may be giving too much away even to say which skill that is! Analysis takes 3d hours for an inventor, 1d×10 minutes for a gadgeteer, or 1d minutes for a quick gadgeteer. Always apply the *Tech-Level Modifier* (p. 39).

Success or critical success allows you to use the device without penalty (though the GM may apply familiarity penalties for *very* strange or alien technology). On a failure, you may try again, but at a cumulative -2; a critical failure means you cannot try again until you raise your skill.

GIZMOS

Wastelanders can use **Gizmos** to pull any of the following things out of their pockets, backpacks, etc. This requires a Ready maneuver. Multiple Gizmos *can* be combined. For example, a gadgeteer may use *two* Gizmos to pull out a retroactive invention; one for the invention itself, and one for the parts that it required!

1. *Any item the person owns but didn't specify he was carrying.* This cannot weigh more than BL/10. Also, a melee weapon must be Reach 1 or less and a ranged weapon must have no worse than Bulk -4. Once revealed, this becomes normal equipment – it can be used repeatedly, counts against encumbrance, and so on.

2. *A single, consumable item.* This must be an expendable item worth no more than $40 – or a single use of an item or kit worth up to $200. Examples include a handful of replacement ammo, a dose of antibiotics, and a single use of a crash kit (e.g., some bandages and antiseptic) to treat a wound. In all cases, the item must be used shortly after being pulled out, not stowed or sold. Gizmos are not for bartering!

3. *Parts for an invention, upgrade, or repair.* This is an unspecified bunch of parts worth $200. They must be used on a *single* project; succeed or fail, none are left over at the end.

Anyone with **Gadgeteer** has access to a fourth option:

4. *A retroactive invention.* Instead of pulling a usable item out of his pocket, the gadgeteer declares that he has *already* built a certain device and had it in his pocket all along. Use the normal *Inventing* (pp. 40-41) rules, with no modifier for time (because he took the normal time to build it "off camera"). The gadgeteer still has to expend the necessary parts, make all of the rolls, and so on. If his final roll succeeds, the device he pulls out of his pocket works! If not, it falls apart horribly and embarrassingly. Either way, this uses up a Gizmo.

COMPUTERS

Outside of rogue robots (pp. 25-27), computers are uncommon. Their natural fragility means that most did not survive the collapse of civilization. However, some intact buildings, particularly bunkers (pp. 32-36), still have functional computers – often hooked into their security system (pp. 33-34).

Assume that any computer encountered will be either very simple in design *or* so complex that it supports a full range of user assistance; either way, Computer Operation is unnecessary. If the computer recognizes the user's right to issue commands *and* has functional software, assume it will understand the request. If not, see below . . .

These rules require the GM to know the Complexity of the computer. This is often abbreviated "C"; e.g., "C6" means "Complexity 6." Use the *Complexity Table* (below). The value there can be modified by ±1 to reflect a particularly high- or low-end system (minimum C0).

HACKING

Anyone with access to a terminal can try to hack into its computer. Roll against **Computer Programming** at a penalty equal to the computer's Complexity. The terminal is just a tool; always use the Complexity of the master computer it's networked with! This attempt takes 10 minutes for most people, one minute for a gadgeteer, or just 10 seconds for a quick gadgeteer. *Time Spent* (p. B346) applies.

Critical success gives the hacker "superuser" clearance; he can literally make the computer do *anything* it's capable of. Normal success gives him standard access, as if he were an authorized user. Failure sets off any alarms or alerts, as the computer realizes it's being tampered with; he can try again, but his next attempt has a penalty equal to his margin of failure. On a critical failure, the programmer is locked out forever!

For hacking *robots,* see p. 26.

DEBUGGING

Some computers have physical problems: a broken power supply, bad motherboard, etc. Use *Repairing* (p. 41) to fix those. But many have software that has been running continually for decades with no maintenance, and has degraded slowly over time. If this is the case, authorized access and a successful **Computer Programming** roll are required to get the needed program(s) up and running again; time requirements are as for *Hacking* (above). This takes a penalty equal to half the computer's Complexity (rounded down) if the software is mildly degraded, or its full Complexity if things have gotten *really* messed up (GM's call). Most programmers take extra time to offset this penalty.

In rare cases, the user may have to come up with a new program – or even a new operating system – from scratch.

Complexity Table

Computer	Typically One Per . . .	TL7	TL8	TL9	TL10	TL11	TL12
Tablet	–	–	C2	C4	C6	C7	C8
Personal	Small Lab	C0	C3	C5	C7	C8	C9
Microframe	Average Building	C1	C4	C6	C8	C9	C10
Mainframe	Large Complex	C2	C5	C7	C9	C10	C11
Macroframe	Major City	C3	C6	C8	C10	C11	C12

For this, use the *Inventing* (pp. 40-41) rules, with **Computer Programming** as the main skill. Ignore modifiers for parts and workspace. The basic modifier is -2×Complexity for most programmers, -1.5×Complexity (round up, toward 0) for gadgeteers, and -Complexity for quick gadgeteers. To find the time required, count down a number of lines on the *Engineering Table* (p. 39) equal to (Complexity + 1); e.g., a C0 program takes as long as an "Up to $10" invention, a C1 as long as an "Up to $100," and so on.

COMBAT

Many situations in the wasteland can be handled only with good, old-fashioned violence. It's up to the GM whether to use the basic (pp. B362-383) or tactical (add pp. B384-392) combat system; some groups may be comfortable switching between the two as the situation demands. Because the following rules focus on streamlining and simplifying combat, they work best with the more abstract basic system.
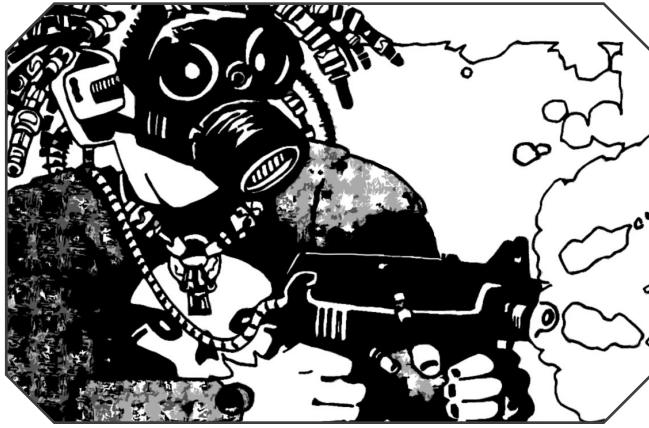
SIMPLIFIED GUNPLAY

The key to keeping shooting fun in play is to avoid getting bogged down in calculations. It's unfair to ignore modifiers *completely,* though – skill should count, and offsetting penalties is the whole point of high skill. The key is to avoid *unnecessary* modifiers while retaining the fun ones.

In general, keep modifiers for cover (-2 in most cases where you can see the target), darkness (-1 to -9), gear (like scopes), hit location (pp. B398-400), maneuvers (particularly Aim, All-Out Attack, and Move and Attack), and size (SM). And use the simplified rules below.

Simplified Range

The *Size and Speed/Range Table* (p. B550) can be clunky in a raging battle, especially when not using a map. Instead, define ranges roughly, using the *Range Band Table* (below). To set an encounter's range quickly, use Close in a *melee*, Short for a *pistol* shootout, Medium for a *shotgun* or *SMG* fight, Long for a *rifle* engagement, and Extreme for *sniping.*

Simplified Rapid Fire

A gunman whose firearm has RoF 2+ can fire multiple shots. If he has several targets, he can opt to divide his shots among them. Decide on the number of bullets allocated to each target, assess standard ranged combat modifiers for each target, and then apply the following in each case:

Number of Shots at Target: 0 for 2-4 shots, +1 for 5-8 shots, +2 for 9-12 shots, +3 for 13-16 shots, +4 for 17-24 shots, +5 for 25-49 shots, or +6 for 50-99 shots.

Total Number of Targets: If the weapon has RoF 2-4, there's -6 on all attacks when shooting two targets, -12 when shooting three, or -18 when shooting four. If the weapon has RoF 5+ (it's full-automatic), there's no special penalty – and simply ignore realistic concerns like arcs of fire and shots lost between targets!

Shotguns: A RoF 2×9 shotgun can blast 18 pellets at one target (+4 for number of pellets), or 9 at each of two (each attack has +2 for number of pellets but -6 for two targets). A RoF 3×9 shotgun can fire 27 pellets at one target (+5 for number of pellets), 9 at one and 18 at another (+2 and +4 for number of pellets, but -6 for two targets), or 9 at each of three (+2 for number of pellets but -12 for three targets).

Resolving Hits: Next, roll to hit each target. Success means that target is hit by one bullet (or pellet), plus one extra bullet per *full* multiple of weapon Rcl by which the roll was made, to a maximum of the number of bullets fired at that target. *Double* Rcl for a RoF 5+ weapon sprayed across multiple targets.

Example: Success by 4 with a Rcl 2 pistol means three hits: one for success and two for making the roll by twice Rcl. If spraying a RoF 5+ SMG at several targets, Rcl 2 would be treated as Rcl 4, and success by 4 would be only enough for one extra hit (two in all).

Range Band Table

Range Band	Distance	Range Penalty	Description
Close	0-5 yards	0*	Can touch or strike opponent.
Short	6-20 yards	-3	Can talk to foe; pistol or muscle-powered missile range.
Medium	21-100 yards	-7	Can only shout to foe; shotgun or SMG range.
Long	101-500 yards	-11	Opponent out of earshot; rifle range.
Extreme	501+ yards	-15	Rival difficult even to see; sniper range.

* For a fighter engaged in melee combat, ranged attacks suffer a penalty equal to Bulk.

Damage: For 1-3 hits, roll damage normally. For 4+ hits, it's quicker not to roll. Use *average* damage for the weapon (3.5 per die, plus any modifier), subtract DR, multiply by number of hits, and drop fractions. To save time, note average damage for RoF 4+ guns on character sheets!

Example: Shotgun pellets do 1d+1 and average 3.5 + 1 = 4.5 points, so DR 2 would leave 4.5 - 2 = 2.5 points, and 9 pellets would inflict 9 × 2.5 = 22.5 points, which would round to 22.

Shooting Two Guns

Shooting two one-handed guns uses the same rules as shooting one gun. Treat each hand as attacking separately. While shooting two guns, all attacks have an *extra* -4 unless the shooter improves the **Dual-Weapon Attack** technique. All shots made with the off hand have a *further* -4, which can be eliminated with either **Ambidexterity** or the **Off-Hand Weapon Training** perk for his **Beam Weapons** or **Guns** skill.

Leading the Target

Dodges against gunfire represent the effect of target movement on the shooter's aim. High-skill heroes can mitigate this by shooting at where their mark *will be.* Apply all other ranged combat modifiers to skill first. If effective skill is 12+, the shooter can give his target -1 to Dodge per -2 he accepts on the shot. He cannot reduce effective skill below 10 this way.

Guns as Melee Weapons

Roll against **DX** or **Brawling** to slug someone with a pistol or an SMG. Damage is thrust-1 crushing, plus the absolute value of Bulk; e.g., a pistol with Bulk -2 does thr+1 crushing. Striking end-on with the butt of a longer weapon uses **DX-5, Spear,** or **Staff** and inflicts thr+2 crushing. Holding such a long arm by the barrel and swinging it like a baseball bat requires **DX-5** or **Two-Handed Axe/Mace** and does sw+3 crushing.

FIGHTING SMART

There's nothing wrong with relying on your weapons in combat, but there are times when using your *head* is just as handy.

Strategic Thinking

These options are especially useful for a wounded hero, or one otherwise unable to join in the combat proper – but *anyone* in the fight may attempt them! Each one requires a Do Nothing maneuver.

Battle Plans: Ask the GM to roll against your **Tactics** skill. If successful, he'll reveal the bad guys' tactical plan, in general; if not, he *lies.* This has nothing to do with long-term plans – it's strictly an assessment of how and why the enemy is *fighting* (e.g., "They're guarding the subway entrance" or "They're stalling until reinforcements arrive"). "They're just trying to kill us" *is* a valid reason for some foes!

Encouragement: Roll against **Leadership.** Success gives +1 to your entire team's Fright Checks, self-control rolls for disadvantages that would affect combat, or to offset penalties (but *never* to give a net bonus) from invoking the Ham Clause (**Wastelanders,** p. 21). Critical success gives +2. This bonus lasts until the start of your *next* turn. Failure (even critical failure) has no effect besides wasting time. Encouragement from multiple people is not cumulative.

Got Your Back: Choose *one* friend to watch out for. On his turn, he must choose whether to listen to your warning shouts or ignore you. If he listens, treat your **Observation** (rerolled each turn) as a complementary skill (p. 31) affecting *all* of his defense rolls. A fighter may listen to only one person's shouts at a time.

Posturing

Taunting: Sometimes you need to draw a foe away from your allies, especially if they're wounded. Take a Concentrate maneuver and roll a Quick Contest of **Fast-Talk** or **Psychology** against the *higher* of the opponent's IQ or Will. (Substitute **Animal Handling** for animals and **Naturalist** for sentient plants.) If you *win,* that foe decides to attack *you* from now on. A tie means he continues to fight as he was. If you lose, he targets a hurt or otherwise vulnerable party member! Win, lose, or tie, if you roll a critical success, your mark *also* makes an All-Out Attack on his next turn.

Blustering: You can try **Intimidation** to drive off an intelligent opponent, but *not* one with IQ 0-5, Indomitable, and/or Unfazeable (which excludes animals, zombies, and so on). Roll dice as for taunting (above). If you *win,* that foe attacks somebody *other* than you next turn, and must move *away* from you to do so (so if you step between him and a friend, you can protect your friend) – and if you rolled a critical success, he must make a Will roll or flee the battle. If you tie or lose, though, he tries to kill *you!*

Distracting: Any of the skills listed under *Distraction* (p. 48) can be used in combat. This takes a Concentrate maneuver. Choose a target and whether you want to penalize his offense or defense, then roll a Quick Contest vs. the better of his IQ or Tactics. He resists at +5 after the first turn of combat – physical danger concentrates the mind! If you win, the target's next attack *or* active defense is at -1 (or -2 if you won by 5+). If you lose, however, he is at +1 (or +2 if you lost by 5+), as he sees through your ploy! Ties have no effect.

Playing Dead: This is a free action at any time – just fall down, drop your weapon (no one trusts a "corpse" with a ready weapon!), and stop moving. If an enemy is considering attacking you, roll a Quick Contest of your **Acting** vs. the *higher* of his IQ or Perception. He gets bonuses for special senses (like +4 for Discriminatory Smell); you're at +1 at half HP, +2 at 0 HP, +3 at -HP, +4 at -3×HP, and +5 at -4×HP. If you *win,* you're overlooked.

The Element of Surprise

Death from the Shadows: When combat starts, you may try a **Stealth** roll to duck behind cover or into shadows.

Modifiers: A basic -5; encumbrance penalties; +5 if your team is ambushing, no modifier in a stand-up fight, or -5 if you've been ambushed; -5 if there's *no* cover or shadow.

Success lets you get into a position for *Sniping* (below) next turn; a critical success lets you begin sniping *this* turn.

Alternatively, you may slip behind the *nearest* foe (GM chooses), and attack him immediately! (Critical success lets you get at *any* enemy.) For the latter, treat range as Close; you have an extra +4 to hit (as you can afford to make a "telegraphic" attack) and the victim gets no defense. Attacking reveals your presence for the rest of the battle (but see *Disappearing,* below). A use of **Serendipity** can find cover anywhere (no -5) *or* let you choose your victim.

Disappearing: A really stealthy hero can vanish into the shadows *during* combat! Take a Move maneuver to reach concealment – if only briefly. Then you may attempt the **Stealth** roll above, but at basic *-10* (instead of -5) and without ambush modifiers. Failure means you're spotted and still in the fight. Success lets you leave the fight or "vanish" into the shadows for as many turns as you like. When you reappear, you can be up to Move yards away per turn of absence, in any location you could reach.

Sniping: Once in the shadows (see above), you may make stealthy ranged attacks. Your first victim gets no defense. After each turn, roll a Quick Contest of your **Stealth** vs. the bad guys' *best* Per; they take range penalties (p. 43) but are at +9 if you're using a beam weapon or silenced gun, or +13 for an unsilenced gun. If you *win,* you remain unseen; your *next* shot allows no defense, and so on. If you lose, you're spotted – though if you're in an elevated position, Dodge is at -2 against your shots *and* only combatants in close combat with your mark get in the way (a flat -2 to hit).

Hidden Weapons: To conceal a weapon for surprise use, roll vs. **Holdout,** adjusted for your weapon (Bulk, for a gun) and holster. Success means the *first* strike with that weapon will be hard to see coming: -2 to target's defense. Ensuing attacks won't surprise anyone.

EXTRA EFFORT

Unless the GM rules otherwise, *Extra Effort in Combat* (p. B357) is available. In addition to those existing options, each of the following uses costs 1 FP. A wastelander may try as many as he wishes on a given turn, if he has enough FP.

Heroic Charge: Make a Move and Attack without the usual Bulk penalty, skill cap, or any other negative effects.

Multi-Task: Take a turn in combat while simultaneously doing a simple, one-second *noncombat* task (e.g., dousing lights or taking off a backpack). With GM permission, any long task can be made into a simple, one-second one if you roll at -10 (*Time Spent*, p. B346)!

Near Thing: Undo the effects of a failed DX roll to stay standing, avert a fall when climbing in combat, or catch a weapon dropped due to a critical miss (*not* enemy action).

Rapid Recovery: Ignore the "U" on an unbalanced melee weapon's Parry for one turn.

Rapid Reload: Reload instantly and without error – even between shots! For muzzleloaders, this instead allows reloading in three seconds, or one second with **Quick Reload 4** *and* a successful **Fast-Draw (Ammo)** roll.

Second Wind: Each FP spent *heals* 1 HP! This is similar to Flesh Wounds (p. B417), but it doesn't cost character points – as such, the GM *may* wish to disallow this particular use of extra effort outside of a cinematic (p. 49) game.

Shake it Off: Undo the effects of a single failed HT roll to avoid knockdown or unconsciousness (but not death); the hero stays standing.

SPECIAL COMBAT SITUATIONS

Fighting on the Move: When fighting from a vehicle, your weapon skill cannot exceed the vehicle operation skill of the driver. When fighting from a mount, your weapon skill cannot exceed your **Riding** (or the rider's skill, if you're just a passenger). And when fighting while skiing, skating, etc., your weapon skill cannot exceed your *DX*-based **Skiing, Skating,** etc., skill; in addition, if you are moving faster than you could run, your only option when attacking is a Move and Attack.

PATCHING UP

Many fights end with the heroes getting beaten up, stabbed, shot, or worse. This is when the doc really shines! Because *After the End* has no fixed TL, the normal first aid and recovery rules need clarification.

Bandaging: Takes one minute and a successful **First Aid** or **Physician** roll. Heals 1 HP.

Treating Shock: Takes 20 minutes and a successful **First Aid** or **Physician** roll. Heals 1d-1 (minimum 1) HP, or a flat 5 HP on a critical success. This is *not* cumulative with bandaging; if you've already bandaged, it heals 1d-2 (minimum 0) HP. Critical failure *costs* the victim 2 HP.

Bleeding: Bleeding (p. B420) adds too much complexity and fussiness to most games, and should usually be ignored. If the GM wants it in, it takes one minute and a successful **First Aid** or **Physician** roll to stop it.

Stabilizing Mortal Wounds: Takes an hour and a successful **Surgery** roll with surgical tools (-5 with a crash kit or -10 with a first-aid kit), at -2 if the patient is at -3×HP or worse or -4 at -4×HP or worse. If this fails, repeated attempts are allowed, at a cumulative -2. Critical failure kills the patient.

Repairing Crippling Injuries: Takes two hours and a successful **Surgery** roll with surgical tools (as above), at -3 if the injury is permanent, not just lasting. Success means it heals in 1d weeks; failure means the patient must wait 1d months before trying the surgery again.

Resuscitation: Reviving a drowning, asphyxiation, or heart attack victim requires one minute and a successful roll against **IQ** (at -8), **First Aid** (at -2), or **Physician.**

Medical Care: Anyone under long-term doctor care (Physician at 12+) gets +1 on all recovery rolls *and* the doctor may roll against **Physician** daily to restore another 1 HP. A doc may treat up to 25 patients simultaneously, or up to 50 if he has working TL8 hospital gear.

Flipping a Weapon to Your Hand: It normally takes *two* Ready maneuvers to ready a weapon from the ground. To toe-flip it in a single, showy Ready maneuver, roll vs. **DX** or **Fast-Draw** at -5. Failure means you miss and waste your turn. Critical failure means you knock the weapon 1d yards away in a random direction.

Underwater Shooting: To determine whether a ranged attack rolls full damage or can even reach its target, multiply distances in water by 1,000 before comparing range to 1/2D and Max; e.g., a target two yards under water that's 10 yards away is *effectively* at 2,010 yards. This doesn't affect range penalties; assess these as usual, then add a flat -4 for deflection issues.

PERSUASION

Certain situations are best handled *without* shooting everyone involved. Sometimes a few wastelanders, each with a feel for people and an outgoing personality, can accomplish as much as an entire armed platoon. Games which make heavy use of these rules will find the more detailed ones in **Social Engineering** helpful.

Some of these rules require a roll against "the average Will of a crowd." If unsure of what that would be, assume 12.

MAKING FRIENDS

When encountering a new NPC, anyone may attempt friendly conversation. Roll on the *Reaction Table* (pp. B560-561), applying modifiers for **Appearance, Charisma, Pitiable, Voice,** and any disadvantage which gives a reaction penalty. Apply any **Reputation** for general trustworthiness, respectability, etc. (or the opposite) *if* this NPC would plausibly know about it, given who and where he is; ignore all other Reputations. Apply +2 for **Diplomacy** or **Fast-Talk** at 20+. Finally, if the *player* roleplays the encounter well, apply another +1 or +2; if he does so poorly, apply -1 or -2.

Anyone with **Diplomacy** may also roll a Quick Contest vs. the NPC's Will. Apply all of the above modifiers to this roll *except* the one for having high Diplomacy or Fast-Talk skill. *If the skill roll succeeds,* victory in the Contest raises the reaction roll to Good (if it was worse), while a tie or loss raises it to Bad (if it was worse). Diplomacy will never *lower* the reaction, even if it fails.

Making Followers

Some charismatic wastelanders may wish to build up a cult of personality. This is a long-term goal. The first step is to establish contact, whether through a friendly introduction (above) or via a good working relationship.

If you need to establish contact quickly with a lot of people, the easiest way to get their attention is with a speech. Make a Quick Contest of **Public Speaking** vs. the crowd's average Will. If you have time to prepare, you may use **Current Affairs (Regional)** or **Propaganda** as a complementary skill (p. 31) – or **Philosophy** or **Theology,** if pushing a specific ideology. Victory means they listen; assume about 20% of the crowd sticks around through the whole thing, plus another 10% per point of victory. If you take the time (a few minutes per person) to work the crowd afterward, the members will react to you at +1 later.

Once you have at least a shallow relationship with a person, you can start working on him, one-on-one. This takes about an hour of conversation and is a Regular Contest (not a Quick Contest) – your **Brainwashing, Diplomacy,** or **Psychology** vs. his Will. You may use the same complementary skills as for giving a speech (above). Roll once per day of interaction; if you take it slow, rolling once per *month,* you are at +2. The GM may also assign from -4 to +4, depending on how good a fit he is to your espoused beliefs.

If you succeed and he fails, he begins following you casually; if you critically succeeded *or* he critically failed, he gains Fanaticism for you! If you both succeed or both fail, nothing happens; you can keep trying. If you fail and he succeeds, however, he rejects your offer with prejudice; further tries are at -5!

A few outgoing wastelanders can accomplish great things.

BARTERING

With currency long extinct, every transaction is unique – because everyone wants something different. If an NPC is desperate for medical supplies but has more ammo than he needs, he'll be willing to give a better deal when PCs offer the former than the latter. This is reflected by the randomness of the dice in the following rules.

When a deal is offered, add up the nominal $ value of everything the PCs are offering. Be sure to reduce the price for damaged goods (half price for minor issues, quarter price if actually broken) and invented or modified goods (*Selling Inventions,* p. 40). Then roll a Quick Contest of **Merchant** skill (or its IQ-5 default), using the best modified Merchant skill on each side.

Modifiers: Apply *half* of the trader's general reaction modifier, for traits like **Appearance, Charisma, Reputation, Voice,** and any applicable disadvantages, rounded up. (*Exception:* Any **Reputation** specific to trading, such as for giving good deals or trustworthiness, adds its *full* value.) If anyone *else* in the trader's party has a net *negative* reaction modifier, apply half of the worst one, rounded down (for the worse) – you're judged by the company you keep! Any *one* skill listed under *Manipulation* (pp. 47-48) can be used as a complementary skill (p. 31).

On a tie, the NPC considers the PCs' goods to be worth 60% of their fair price for the purpose of this trade. If the PCs won, increase this by 5% for every point of victory, to a maximum of 100%. If the NPC won, lower this by 5% for every point of victory, to a minimum of 20%. While this may seem lopsided, note that the wastelanders are foisting off things they don't want, in exchange for specific, useful gear; the NPC's only way to justify this trade is if he can "profit" in doing so.

(If the heroes *aren't* asking for specific gear, and are instead willing to accept whatever random gear the NPC feels like giving them, *double* the effective value of the PCs' goods.)

If the traders know that the NPC needs a specific item, the GM can assess the value of that item in one of two ways. The simplest, particularly if the two sides have a prearranged agreement, is to treat its value as a fixed 100% (as for bullets, below). Alternatively, the GM can use the Merchant Contest above to determine its base effective value, and then give ×1.5 to ×2 value for that item.

Bullets

Because ammunition is useful to everyone, either for trading or shooting, it has become the medium of exchange for barter. Use the rules above to calculate the effective value of everything *else* being offered in trade, but then assume that "bullets" trade at 100% of the costs given on p. 32 of *Wastelanders.*

Realistically, an NPC's needs vary by what sort of firearms he uses. As an *optional rule* to simulate this, the GM can randomly roll (1d-4)×10% for each ammo type, raising the value for that type of ammo if positive or lowering it if negative. This roll is at +1 for every *full* five points of victory if the PCs won the Merchant contest, or at -1 for every *full* five points of loss if they didn't. These rolls reset after a week of not trading with this NPC.

Haggling

If a deal is not acceptable, the PCs can offer a different one. After they put together a new trade, roll another Quick Contest – but it has to be a truly *new* offer. Figure (or estimate) what percentage of the value of the new offer comes from items that were part of the *old* offer, and apply the modifier below. At greater than 90% overlap, this is effectively the same offer; don't roll again, just use the previously determined result.

Overlap	Penalty	Overlap	Penalty
Up to 20%	0	Up to 80%	-3
Up to 40%	-1	Up to 90%	-4
Up to 60%	-2	Greater than 90%	–

SERVICES IN TOWN

Friendly settlements make good waystations for travelers. If the visitors have their own camping gear, some places will let them bunk down within "city limits." If not, or if they wish to splurge on some comfort, there will usually be inns or hostels willing to take them in for the barter-equivalent of $10/day.

To offset this, wastelanders with useful professional skills can sell their services. Examples include **Physician** for a doctor, **Sex Appeal** for a prostitute, **Lifting** for a laborer, **Theology** for a preacher, and **Mechanic** for a repairman. Roll against this skill; **Merchant** may always be a complementary skill (p. 31). Success earns the barter-equivalent of $2 times the margin of success (minimum $2), usually in the form of rations. Critical success *also* means a client gave the worker some sort of gift (GM's call). Failure just wastes the time, while critical failure means someone got angry – either assess

1d HP of injury or play out the fight! In all cases, roll only once per day; this takes a full eight hours.

Illegal Services: Some settlements have rules restricting certain services. If what you're offering is against these rules, you must first make a **Streetwise** roll to acquire suitable clients "on the down-low." Critical success gives you +2 to sell your services. Success lets you proceed as above. Failure means you can proceed, but at -5, and if you fail by 5+ when selling your services, it is treated as a critical failure! And a critical failure here causes a beating or fight as above.

Selling Stuff: Wastelanders who *make* things, rather than offering services, use the inventing (pp. 40-41) and bartering (pp. 46-47) rules. However, to simplify in-town stays, the GM may instead use the rules above, assuming that the crafter is buying raw goods, turning them into something more, and then selling them for a modest profit.

> # NEW GEAR
>
> *Advanced Biohazard Suit:* Provides DR 1 and Protection Factor (PF) 2.5; see *Radiation* (p. 25). Can be given armor and protection modifiers. $16,000 ($1,000 × 16), 8 lbs.
>
> *Lab Kit:* For those who can't afford a suitcase lab (*Wastelanders,* p. 29), this collection of weak microscope, test tubes, etc., counts as improvised equipment (-5 to skill) for Bioengineering, Biology, Chemistry, Pharmacy, and Poisons. $1,200 ($600 × 2), 4 lbs.
>
> *Stethoscope:* Useful for cracking safes (p. 33). Can be given miscellaneous equipment modifiers. $30 ($15 × 2), 0.25 lb.

MANIPULATION

Social wiles can be useful in a wide variety of situations. For all of these skills, roll a Quick Contest of skill against the mark's Will. Victory acquires the information, distracts the person, etc. To convince someone to help you *actively* requires victory by 5+.

When using one of these as a complementary skill (p. 31), victory by 0-4 counts as a success, and victory by 5+ as a critical success. Any loss, however, gives a penalty equal to the margin of loss!

Diplomacy can convince neutral (*not* hostile) NPCs to share information, or defuse a situation turned bad because a different roll was failed. Victory by 5+ can gain minor aid from a neutral party.

Fast-Talk can distract a neutral (not hostile!) guard while friends sneak past, or gain a peek at sensitive info. Victory by 5+ can convince a guard to admit *you,* or trick an NPC into *giving* you information, a password, etc.

Sex Appeal can distract, convince someone to let you in, etc. Victory by 5+ can convince someone to leave his post to appreciate your charms up close, set up a **Pickpocket** attempt, or turn a situation physical to keep someone occupied for a *while*.

Streetwise can convince a single gang member not to mess with you or obtain some underworld knowledge. Victory by 5+ can convince multiple gangers to treat you like "a good 'un" or introduce you to the boss.

Lying

Use **Acting** to sustain a consistent, believable lie over time, or **Fast-Talk** to confuse the target into temporarily believing something (plausible or not). If you lack these skills, you may roll against your **IQ-5** default. At the GM's option, a *very* simple, clear, and/or plausible lie may offset that penalty, raising this up to a maximum of full **IQ.**

To spot a lie, use **Body Language** (only with a visible liar) or **Detect Lies** (good for *any* lie, though at -3 for written lies). Treat this as a Quick Contest between the lying skill and detection skill; ties go to the detector. Alternatively, **Empathy** allows an IQ roll to detect a lie, but only if the liar is physically present; this is not a Quick Contest.

There has been too much violence, too much pain. None here are without sin, but I have an honorable compromise. Just walk away. Leave the pump, the oil, the gasoline, and the whole compound, and I spare your lives.

– The Humungus,
in Mad Max 2: The Road Warrior

FITTING IN

If you can't beat 'em, join 'em . . . at least, on the surface. Sometimes looking like a mutant, a member of a particular gang, or a slave is the easiest way to get into a place – or at least avoid getting shot! To do this, first note which of the following skills are necessary to pull this off; this will often be more than one!

- **Acting,** for lying, imitating the mannerisms of a particular class of people, or both.
- **Disguise,** if you have to change your appearance (e.g., to look mutated). At -5 without a disguise kit.
- **Mimicry (Speech),** if the group shares a particular accent or vocal inflection (this is rare).
- **Soldier,** to fit in with a paramilitary.
- **Streetwise,** to fit in with a gang or with urban scum.

After determining which skills apply, use the *lowest* one, at default if necessary; the weakest part of your performance is what they're most likely to see through. Roll a Quick Contest of this skill vs. the highest IQ in the group you're trying to fool. If they wear a particular outfit or style, you must match it: no modifier for stealing the right clothing, -5 for improvising something close, or -10 if you have to make do with what you're wearing. Victory means you pass – though unless the group is very large, they may still realize you aren't a part of it! Loss or a tie means your attempt is seen right through.

DISTRACTION

Any of the following skills can be complementary (p. 31) to **Filch, Holdout, Pickpocket, Shadowing, Sleight of Hand, Smuggling,** or **Stealth,** by distracting a subject's attention while the sneak does his thing. They can also affect a fight; see *Posturing* (p. 44) for details.

- **Acting** allows for a staged or preplanned distraction.
- **Fast-Talk** is good for quick, improvised conversations.
- **Intimidation** uses anger or threats; even if the subject isn't afraid of the threatener, he needs to evaluate how much of a danger the intimidator is. See below for details.
- **Public Speaking** can attract followers (p. 46) *or* distract them, not both.
- **Sex Appeal** works against anyone who'd potentially be interested.

INTIMIDATION

Between Individuals: Roll a Quick Contest of **Intimidation** vs. Will. Apply general reaction modifiers *and* the modifiers from p. B202. Remember to apply the difference in SM; this is important for hulks! Treat simultaneous Intimidation attempts as a Quick Contest of Intimidation; the loser is intimidated.

Between Leaderless Groups: As above, but use the highest effective **Intimidation** skill in the first group, and the highest Will in the second. This assumes the intimidating group is as large as the subject group or larger. If a smaller group attempts to intimidate a larger one, they are at -1 for up to a 5:1 ratio, -2 for up to 10:1, -3 for up to 15:1, -4 for up to 20:1, and -5 for up to 25:1 (the maximum). A single person trying to intimidate a crowd counts as a "group" of 1.

Between Organized Groups: For an organized group, led by a single person, use the *leader's* **Intimidation** or **Will** as applicable; otherwise, use the rules above. If an organized group is intimidated and the leader loses by 5 or less, he retains effective command; if he loses by more, he's no longer in control, and his group is considered leaderless.

Organized Group vs. Leaderless Group: As above, but the organized group has an edge; treat the leader's **Leadership** as complementary (p. 31) to **Intimidation** or **Will.**

MOBS

Riling Things Up: To encourage a lynch mob, riot, etc., roll a Quick Contest of **Public Speaking** vs. the average Will of the crowd; modify their Will as below. **Propaganda** may be used as a complementary skill (p. 31).

Modifiers to Will: If the crowd is angry with a particular subject (e.g., a lynch mob), apply all of that subject's reaction penalties (but not bonuses); +2 if the crowd is spaced out (at least one yard between members); +6 for a crowd of 2-6 people, +4 for 7-18, +2 for 19-36, or no modifier for a larger crowd; +2 for a paramilitary force with orders; +2 for any group with a recognized leader.

Defusing the Situation: To calm a mob down, win a Quick Contest of **Fast-Talk, Leadership,** or **Public Speaking** vs. the average Will of the crowd. Apply the modifiers above to the crowd's Will, but *reversed;* a crowd that was easy to stir up will be hard to put down, and vice-versa.

Order Through Threats: A single individual or small group may attempt to use **Intimidation** to force a mob to back down. Use the rules for intimidation between leaderless groups on p. 48. (*Exception:* If the peacekeeper's team has a clear leader, treat this as an organized group vs. a leaderless group.)

POST-APOCALYPTIC GAME MASTERING

This chapter is aimed at the GM in particular, with advice specific to planning a campaign, running the game, and making it fun for everyone. However, there's nothing secret here. In fact, it wouldn't hurt for the players to read through this as well, if only so they understand what the GM means when he says, "I'm going to be running a gritty game with heroic morality."

CAMPAIGN STYLES

After the End can be run in several styles, from over-the-top cinematic action to gritty survival. This tone is often linked to the PCs' power level (*Wastelanders,* p. 4) – a high-powered game tends toward the cinematic while a low-powered one tends toward the gritty – but it doesn't *have* to be. The campaign style is about how the GM runs things, not what the PCs can do; a game that rewards flashy moves and dramatic choices is cinematic whether the PCs are built on 400 or 150 points.

The GM must share his decision with the players, so they know what his expectations are. Miscommunication can kill, especially if the players think they're supposed to be showboating through their fight scenes while the GM thinks that's the quickest way to get gunned down!

Cinematic

For cinematic heroes, doing something *stylishly* is as important as doing it right. The GM should reward wastelanders for over-the-top actions, not penalize them; for example, "I cartwheel over the wreckage and sink a crossbow bolt into the mutant's eye" should garner a +1 or +2 for style, not a penalty for acrobatic movement!

Each protagonist should have a story – something motivating him and giving the GM a place to hang plot hooks. Character niches also become more important; players should try to avoid stepping on each others' toes. If the doc keeps trying to outshoot the trooper, and the trooper always races the doc to apply first aid, each wastelander loses a bit of what makes him cool.

In a cinematic game, things happen for a *reason*. The GM should tailor the plots to the PCs' various stories and motivations – and he must be willing to fudge the occasional die roll to keep the action going. Alternatively, he may give every player 3-5 beads or poker chips at the beginning of each session, and allow them to spend these as character points for the

purpose of *Influencing Success Rolls* (p. B347). See **GURPS Power-Ups 5: Impulse Buys** for more on this.

Not only should all of the extra-effort options (p. 45) be in play, the GM should consider *Cinematic Combat Rules* (p. B417). Bulletproof Nudity is a bit silly, and Infinite Ammunition turns into "infinite money" (bad idea!), but the other options fit a game where four PCs can charge a 100-person raider camp head-on and expect not just to survive, but to prevail. Similarly, *Time Spent* (p. B346) can be generalized to allow long tasks – such as *Patching Up* (p. 45) and *Repairing* (p. 41) – to be done *instantly* at -10 to skill. This allows them to be used in combat with a single Ready maneuver!

See *The Cinematic Campaign* (pp. B488-489) for more useful advice.

> *Crosshairs: You could jump down there, run in the middle of them, and when you're there, I could shoot you in your gas-tanks and take them all out in one big burning explosion.*
>
> *Pyro: Nah, the blast wouldn't be big enough to take them all out.*
>
> – Kimmo Lemetti,
> **Gone with the Blastwave**

Heroic Realism

Heroic realism blends the tone of action-adventure fiction with a firm grounding in the real world. Characters can (and should) take dramatic chances and think big, but not to the point of putting flash before substance or acting foolishly. This style can also be thought of as "plausible heroism." Most *After the End* games will fall into this category.

The standard **GURPS** rules fall somewhere between this level of realism and *Gritty* (below), so encouraging heroic realism just requires erring on the side of cinematic action – without going all-out as for *Cinematic* (above). The GM shouldn't punish the players for portraying their characters as if they're in an action movie, unless they do something *stupid* . . . and if that happens frequently, he can either make **Common Sense** mandatory or make passive rolls against **Observation, Tactics,** etc., to point out flaws in the PCs' plans.

Combat usually works best with the basic system and the simplified rules on pp. 43-46. Extra effort (p. 45) should be *encouraged.* Picking and choosing one or two cinematic combat rules (p. B417) can help craft a particular "feel," but don't use them all or your game will quickly turn cinematic. Skip over any optional rules that drag things out or increase lethality, such as *Bleeding* (p. B420) and *Changing Posture in Armor* (p. B395), and focus on keeping the plot and/or the action moving forward at all times.

Gritty

The focus of **After the End** is on boldly adventuring through the wasteland, but that isn't incompatible with a gritty approach. A gritty game emphasizes harsh realism; heroes should be sneaky, cautious, and paranoid, because the hazards of the world *will* kill them otherwise! Simple survival (pp. 30-32) becomes a major concern, especially if the GM makes rations hard to acquire.

A gritty game doesn't have to involve extra bookkeeping. The new FP/LFP rules from **Wastelanders** are just a simplified version of the existing ones, and the RP take on radiation is quite harsh in the short-term. To make radiation scarier without using the rules from p. B435, simply decree that for every 10 RP lost, your RP statistic drops by 1 *permanently.*

Combat can still use simplified rules (pp. 43-46.), but if the GM sets fights in realistically cramped tunnels or hallways,

he may want to switch to tactical combat occasionally. It is possible to use the extra-effort options (p. 45) in a gritty game, though Second Wind may temper the fear of death.

Hazards (see Chapter 2) should be particularly unforgiving. Bad guys, like gang members and mutants, react intelligently and take advantage of any mistakes or openings the PCs make. Environmental dangers, like storms and chemicals, appear frequently and there will be no obvious ways to avoid them. However, it's *crucial* that the GM doesn't actively try to kill the characters (or make their players feel that way); there's nothing fair or fun about an omnipotent being toying with mere mortals.

MORALITY

Just as important as campaign style is *campaign morality* – how the GM expects the PCs to behave. It's important that everyone be on the same page here *before* character creation. If the party consists of a white-hat marshal for justice, a paranoid and sociopathic thief, and a compulsively murdering gangster, the very first game session is likely to end with the PCs trying to kill each other!

Heroes Wanted

The world may be a violent, horrible place, but you rise above it. You live by a code of ethics and work to make the wasteland a little bit better everywhere you go. You can kill, but not murder. You can fight (and do sneaky stuff like backstabbing), but only with *true* justification for your actions.

The wastelanders should avoid disadvantages like Bloodlust, Bully, and Callous – instead choosing ones like Charitable, Code of Honor, Pacifism (Cannot Harm Innocents *or* Self-Defense Only), and Sense of Duty. The PCs do *not* have to be doe-eyed and innocent. A true hero *can* be a grizzled veteran who'll gun down anyone who deserves it without remorse. The key is that it has to be clearly *deserved.*

Shades of Gray

People aren't "good" or "evil" – they're just people, and nobody's perfect. There are times when you kill a slave trader and free his cargo, and there are times when you have to trade with one for supplies and then ride away being thankful that at least the slaves have shelter. "Compromise" is the name of the game, and those who can't learn to play that game aren't long for this world.

Characters shouldn't take polarizing disadvantages (e.g., Sadism). An extreme Code of Honor or Sense of Duty that compels the PC to defend a huge class of people will get him into trouble quickly. Fanaticism is rarely a good fit, whether for a noble *or* ignoble cause. Because the PCs have much more leeway in terms of personality, their players will need to coordinate during character creation to ensure that everyone can work well together.

KEEPING HEROES ALIVE

The protagonists won't always prevail in an **After the End** campaign. If the wastelanders underestimate their opponents (or just have some bad luck), it's entirely possible for them to end up knocked unconscious or worse. If the GM doesn't want everyone to build new characters, he has a few options.

Better "Dead" Than Dead: If someone is being badly beaten, the GM should remind him that he can play dead (p. 44). This doesn't work with hazards, or animals that eat dead bodies, but intelligent foes may very well just steal his stuff and leave him be, if fooled.

Capture: Many gangs (human or mutant) would rather have new slaves (p. 15) than waste ammo on a kill. Some paramilitaries are willing to take prisoners. And even animals might be so full that they'd rather save their new prize for a later meal. This turns a total-party-kill situation into a new adventure: escape! Because some players associate "capture" with "execution," it's important for the GM to give them an honest answer about their characters' chances of survival should they become prisoners. When he tells them, "This gang seems likely to let you live if you surrender," they should realize that he's giving them a way to survive a hopeless situation.

Deus Ex Wasteland: The wasteland is *full* of hazards, which means that any two-way conflict can easily turn into a three-way one! For example, if the PCs are getting beaten badly by a group of robots, a sandstorm can be a lifesaver. While it's equally bad for everyone, it effectively *breaks up the fight,* which gives them a chance to regroup and recover. Alternatively, if one of the PCs has **Serendipity,** it can turn this into a genuine lucky break – maybe instead of a sandstorm, a pack of mutant animals show up, angered by the high-pitched noise of the robots' servos, and *just* attack the bots!

Looking Out for Number One

The world is harsh and cruel, and if you aren't willing to do whatever it takes to survive in it, you're as good as dead. Nobody *likes* hurting other people (well, *some* people do), but sometimes you have to scramble to safety over the backs of others.

Any kind of disadvantage makes sense, with the exception of "goody two-shoes" traits like Charitable and Selfless. No one *has* to build a sneaky, evil schemer, as long as it's understood that such a concept is acceptable. This kind of campaign can lead to paranoia and inter-party strife, so it's *crucial* to ensure that the PCs have some reason not to betray each other immediately. The GM may even wish to make Sense of Duty (Friends) *mandatory,* playing on the "us against the world" mentality that pervades so many settlements (*Hostile Townies,* p. 17).

DOWNTIME

Downtime between adventures, or even between large story arcs (if any), is not required. If the PCs ended the last session in good shape, ready to take on another challenge, there's no reason not to segue right into it! However, sometimes one character needs to take downtime (e.g., to heal), which leaves everyone else twiddling their thumbs.

The easiest approach – and the one recommended here – is to simply skip over it. "Okay, Bill spends the next two weeks healing, while the rest of you keep an eye on him and forage so you don't waste any rations. The day after Bill recovers, an old man stumbles into your camp . . ."

However, if the GM *really* wants to keep track of everyone's time while they're staying in one place, it's possible to do so without getting too legalistic. Anyone lying in bed healing can't do anything else. For everyone *else,* first figure out much time each person has free. This is 22 hours – 24 hours in a day minus two hours for eating and personal needs – minus eight hours for sleep *or* 10 hours if the group posts sentries (most usually do, even in a settlement), modified by **Less Sleep** or **Extra Sleep.**

For the average wastelander, that's 12 hours/day of available time. Here are some ways that time could be spent:

Gathering (p. 30), *Hunting* (pp. 30-31), *and Water Foraging* (p. 31): Groups living outdoors will need to devote a significant portion of their time simply keeping everyone fed – especially if a few members are healing or busy with a difficult project. However, once *one* water foraging roll has produced an unlimited amount of water, no one needs to devote further time toward acquiring water. To speed things up, the GM should always use the faster gathering rules.

Inventing, Upgrading, or Repairing (pp. 38-42): Especially for non-Gadgeteers, these tasks can take days, weeks, or even longer. The time requirement assumes eight-hour days; adjust it proportionally if the tech consistently takes more or less time per day (e.g., spending 10 hours/day on it would mean it takes 8/10 as long).

Learning a Skill: Every 200 hours (reduced by 10% per level in an appropriate Talent) of training translates into one point in a skill. Every *two* hours of self-teaching counts as an hour of training (half speed). If the student can find a trained teacher, each hour counts as an actual hour, but this should be rare and will *never* be free! Note the hours accumulated toward a skill in the margin of your character sheet.

Making Followers (p. 46): Creating a cult of personality is time-consuming, requiring at least one hour per person per day, but can be useful. The followers don't count as actual Allies unless the PC buys them as such, however.

Medical Care (p. 45): For a doctor to give his patients the HT bonus, he must spend time treating them each day. This requires one hour for up to four patients, two hours for up to 10, or three hours for up to 25, assuming they're all in one place; if not, sum the time needed to treat each group separately. A TL8+ hospital doubles the potential patient load, not the time: one hour for up to eight patients, two for up to 20, or three for up to 50.

Scavenging (pp. 36-38): If the PCs are near ruins, they can scavenge. To keep things simple, figure how long each scrounger can spend in the ruins (considering travel time to the ruins), then roll *once* per day, at +1 for two hours in the ruins, +2 for four hours, or +3 for eight hours. Then *also* roll once for each to avoid mishap (*This Old House,* pp. 34-35) without any bonus for extra time. The penalty for repeated scavenging kicks in per *attempt,* not per hour, which will usually mean -3 per repeated *day* of poking around.

Selling Services in Town (p. 47): This is the equivalent of "gathering and hunting" while in a settlement.

Gruesome Color

The more the GM emphasizes the anarchistic, lawless nature of the wasteland, the more dangerous and exciting it will seem to the players. One way to do this is to come up with new customs, forms of entertainment, and ultra-violent sports. For examples of the latter, see "Deathball" (in *Pyramid #3/3: Venturing Into the Badlands*) and **Car Wars** (or its role-playing game analogue, **GURPS Autoduel**).

GEAR

In **After the End,** equipment is easy-come, easy-go. The adventurers should be able to obtain what they need via scavenging, stealing, looting (off their foes), and trading – but at the same time, the GM should have no qualms about taking it away. Enemies are willing to shoot at weapons (-4 to hit for most), sandstorms and acid rain will destroy exposed gear, and so on. Broken equipment should be a *common* result of critical failure. Damaged gear is the reason why the *Repairing* (p. 41) rules exist, and destroyed gear just means the group has to go adventuring to get some more.

Because there's no Wealth and thus no point cost associated with equipment (besides Signature Gear), it's easy to be free with rewards and not to worry much if the heroes acquire something large. Vehicles are a good example; just about the *only* way a nomad can get one is in-game. So let him! Anyone attached to a large, expensive piece of equipment is handing the GM a platter of adventure hooks – putting his prized big rig in danger will have the same effect as threatening Dependents in most other **GURPS** games.

It's as much of a drawback as a benefit, so it doesn't need to cost points to be balanced.

Sometimes the extreme value of ultra-tech gear can make it seem difficult to give as a reward. You may let the party find a blaster pistol as part of a stash (p. 38), thinking that the trooper will cherish it, only to find that he'd rather sell it for enough rations to fill a trailer! This is less of an issue than it seems, however. Remember that NPCs will rarely be carrying around several million $ worth of stuff to trade; the PCs are far less likely to barter away that pistol if they discover they can get only a few thousand $ worth of goods in return. And even if they do end up with literal truckloads of stuff, it takes only one desperate gang catching wind of it ("The haul of a lifetime . . .") to take it away.

More of an issue is that of ultra-tech gear unbalancing the game. If the entire party ends up equipped with TL11 blaster rifles, every fight can become a nonchallenge very quickly! There are a few ways to deal with this:

1. Beef up the strength of the opposition to compensate. However, it's important not to let this lead to a goofy world in which (e.g.) every mutant is a colossus (p. 19) in TL9 battle armor. Instead, emphasize the link between great power and responsibility. Anyone who becomes a godlike fighter is going to end up collecting followers, championing settlements, etc., and may have to defend these people against *armies* of ordinary foes.

2. Take the gear away: easy-come, easy-go. Have enemies target the guns until they're no longer fixable, or have someone show up with a grenade that disintegrates ultra-tech plastic. The players may prove to be surprisingly adept at protecting their characters' equipment, however. It may be simpler to address their fuel or power requirements; e.g., beam weapon power packs are rechargeable via solar energy, but it's realistic to assume that they can be charged only so many times, after which new "batteries" are needed.

3. Find a way to reduce the effectiveness of the gear without actually crippling it. For example, what if a crazed gadgeteer were able to invent a field that reflected charged particle beams – and it was *easy* to reproduce? Why, everyone would soon have one . . .

Making Everyone Useful

No wastelander is a true specialist; everyone has a smattering of different skills in order to survive the hostile wasteland. But each hero *does* have a particular niche – an area of proficiency that's uniquely his. This is intentional, to give everyone a chance to show off, which is a large part of what makes gaming fun!

For this to work, each adventure should offer *every* hero a moment in the spotlight. If one PC specializes in **Tracking,** the GM should throw the occasional trail which has to be followed for the adventure to progress. Conversely, if there are *no* trackers in the party, then the adventure shouldn't require it at all – find some other way to challenge the team. The GM may wish to make a list of what each PC can do that no one else can do (or at least, not nearly as well) and use it to come up with at least *one* spotlight scene per wastelander per adventure.

Doc

Obviously, the doc is *the* patch-up person, which means any adventure likely to end in injury (that is, most of them!) will call for his skills. So focus on his *other* talents. No one else can handle diseases as well, so throw some pathogens at the group. Play up his knowledge of hazardous materials. If there's no survivalist (*Hunter,* below) or guide (*Trader,* p. 53) in the party, spotlight his knowledge of wasteland dangers as well.

The chemist has pharmaceutical knowledge *and* a shady side; he can identify unlabeled meds, recognize poisons, *and* deal with gangs and urban scum when necessary. The herbalist wants to spend some of his time in the wilderness; he can warn the party about mutant vegetation and make cures from gathered plants. The medic can fix people (PCs or NPCs) with *serious* medical issues, which may be the key to making friends in a wary town. And the shrink can gauge what hostile NPCs really want, smooth over situations, and help the party identify who they can trust.

We struck a deal. I'd use what I could to heal him and he'd compensate us for those resources through service.
*– Dr. Edwards, in **The Walking Dead** #5.4*

Hulk

Hulk like combat. Hulk like break things. Hulk like scare people. (Just kidding.) The hulk *is* optimized for fighting and action, though. This doesn't require constant battles, just enough that he feels especially useful. If he maxes out his ST, be sure to let him show off by having obstacles only he can lift or shove out of the way. Don't reduce him to a single attribute, though! Take a careful look at his secondary skills; they cover a wide range of "action hero" abilities, all of which are worth some spotlight time.

The bruiser will *excel* in early games, but he might feel inadequate later on; making brawls a key part of the setting (particularly among gangs – see *Gruesome Color,* p. 51) will go a long way toward making him happy. With his weapon of choice, the heavy gunner will tend to hog the spotlight in combat – but he's hard to keep equipped and is always running out of ammo (or parts for his beam weapon), so reward him that way. The melee generalist wants to show off his versatility; give him a range of real and improvised weapons to play with. And the melee specialist looks for opportunities to show off his high skill; pit him against one master opponent or a handful of mooks.

Hunter

The hunter wants to be self-reliant and outdoorsy. Let him take point on wilderness treks and identify dangers. Give him time to camouflage the party and prepare an ambush when danger is coming. Set up fights where he can cover the party from a distance. See what secondary skills he focuses on; a beast lover can deal with mutant animals, a boater can navigate across dangerous rivers, and so on.

The scout is all about recon; be prepared with information that he can gather about upcoming encounters, and throw the occasional trail (to track) his way. The sniper will look for a perch to climb before each fight; while it's unrealistic for there to always be one, consider some unconventional alternatives like hanging from an old power line (and make him work for it). The sojourner wants to travel; give the party an excuse for a long trek and let him lead. And the survivor wants to show off his wilderness skill; try arranging a difficult journey without adequate rations so he can forage.

Nomad

The "driver" nomad wants a vehicle. Let him acquire one early on (see *Gear,* pp. 51-52, for more); it doesn't have to be a high-end model! Once he has one, that's his baby; let him find excuses to bring it anywhere the group goes. Then introduce mutated monsters he can plow through, motorized gangs he can outrace, and difficult jumps through almost-too-narrow openings that let him show off (and shake pursuers). If he's able to acquire a few different types of vehicles (e.g., a pickup truck that can hold an autogyro in the back), look for situations that will let him use them all.

The "rider" nomad is a bit of an animal expert in general, so in addition to the above advice (just read "vehicle" as "mount"), introduce plenty of wild animals for him to tame, pacify, or outwit. It will usually be easier for him to bring his mounts into a town, so expect it (or them) to be nearby. Give his favorite one a personality and play it up; the interaction between nomad and mount can be entertaining and endearing.

Scavenger

As long as the game takes the party into urban ruins on a regular basis, the scavenger should be happy. Give him plenty of chances to scavenge, of course, but also focus on his other talents: Have his knowledge of the old world be the key to a vital clue, for example, or have him broker a trade with shady "street rats."

The ghost wants either to sneak *past* guards without them ever realizing it, or to sneak *up* on them for a surprise attack; give him a chance to hide among them for just long enough to achieve his goals and then disappear. The looter fills the role of the "classic thief" in old-school fantasy games – give him traps to check for, locks to pick, and barriers to break through. The shady thief works best when the city ruins have other scavengers, "street rats," and gang members; provide him with victims in a variety of situations. And the urban explorer wants to show off his ability to climb tall buildings for recon, slip through old sewers to surprise someone, and lose a tail by leaping between rooftops.

Tech

His happiness depends almost entirely on how much technology you introduce in the game . . . but don't overdo it! It's the rarity of such gear that makes him so valuable. Give him stuff the party *almost* needs, and let him modify it to suit the situation. Scatter dangerous tech (e.g., robots, nanotech, or explosives) across the wasteland so he can identify and figure out how to neutralize the threat.

The inventor lives to scavenge and make nifty stuff; note how long it takes him to make something and try to give him that much lead time before dangerous situations, so he can create some bespoke item to help. The repairman is useful after many fights and hazards, but be sure to have him come across broken, discarded tech lying in the wasteland (to fix). The scientist has answers, so give him questions; the more puzzling the situation (e.g., a rare mutation or a bizarre form of energy), the greater the chance that *science* is needed! And the technophile really wants to play with his toys; look at his equipment list and find a problem that can be solved with one of his gadgets.

And the Science gets done and you make a neat gun For the people who are still alive.

– Jonathan Coulton, "Still Alive"

Trader

The trader is a vendor and a people person at heart; give him neutral or friendly NPCs to interact with, and a range of gear to trade. But don't overlook his *other* talents! The trader is as much a traveler as the nomad; he's comfortable on long trips and knows his way around the wasteland. And he has a wide range of secondary and background skills. See what he's picked up; it's likely that he can fill another minor niche, such as "mechanic" or "sneak," if there's no wastelander dedicated to that role.

The guide wants to go on long journeys into the wasteland, where he can identify dangers and keep everyone on track. (If there's a sojourner hunter in the party, they risk some overlap, so focus on the hunter's stealth and weapon proficiency, and the trader's broad training and people skills.) The merchant wants to sell, sell, sell, so give him plenty of stuff to collect – but also give his people skills a chance to shine. The orator wants to distract people (or recruit them) and make an impression with his speeches. And the sweet-talker wants to wrap people around his little finger; give him NPCs to manipulate, and make some of them a challenge!

Trooper

The trooper will either have a Signature Gear firearm that he wants to protect and upgrade, or go from one gun to another, always looking to trade up. He'll be happy in combat, obviously, as long as it's serious enough to justify shooting. His tactical sense means he's the go-to person in a fight; give the enemies interesting enough battle plans that he can get an edge from figuring them out.

The gangster is tough and thuggish, and wants to show that off; give him NPCs to stare down and shady scum to deal with. The marshal is part detective, part beat cop; give him crime scenes to figure out and a recurring cast of people. (For nomadic parties, this might be a friendly caravan or even an airship crew.) The private security trooper lives to be the one to notice problems; give him dangerous situations that can be defused if caught quickly enough. And the soldier excels in large-scale battles with preparation time; give him the chance to (e.g.) defend a town against a gang onslaught he knows is coming. Or involve them in a full-scale wasteland war (see "Warlords of the Apocalypse" in *Pyramid #3/88: The End Is Nigh*).

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Your people were getting too intelligent. We could not wait until you were strong enough to attack us; we had to attack you first.

*– Ro-Man, in **Robot Monster***

*Finn: We've been showing these films **unauthorized.***
Jake: But these movies are before the Great Mushroom War.
Finn: We should still respect authority, man.

*– **Adventure Time** #2.2*